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1 UNITED STATES DISTRICT COURT
2 SOUTHERN DISTRICT OF NEW YORK

-----x

3 SECURITIES AND EXCHANGE
4 COMMISSION

Plaintiff,

v.

23 Civ. 1346 (JSR)

6 TERRAFORM LABS PTE LTD. , et
7 al.

8 Defendants

9 -----x

10 New York, N.Y.
11 April 2, 2024
12 9:32 a.m.

Before:

13 HON. JED S. RAKOFF

14 District Judge
15 -and a Jury-

16 APPEARANCES

17 UNITED STATES SECURITIES AND EXCHANGE COMMISSION

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Also Present:

Shadow Haywood, SEC Trial Assistant

Armando Aquino, Defense Trial Assistant

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1 (Trial resumed; jury not present)

2 THE COURT: So I understand that the plaintiffs have
3 removed the chart references to specific exhibits so it's just
4 going to be the overall trading or price records; the color
5 part, not the other part, correct?

6 MS. MEEHAN: Actually, your Honor, it's just the
7 timeline. It's not the --

8 THE COURT: Oh. So it's not -- okay. Either way is
9 fine. And my understanding is that the plaintiffs wanted to
10 reraise the question about the conviction?

11 MR. CONNOR: Yes, your Honor. We had discussed this
12 at side bar and previewed it in our motion *in limine* and
13 discussed with defense counsel. Our position is that some of
14 the testimony that we read into the record yesterday from
15 Mr. Kwon specifically related to the vesting conditions where
16 he said without -- that they didn't look too much into the
17 trigger conditions. We think that based under Rule of Evidence
18 609, which allows us to attack a witness's character for
19 truthfulness by evidence of a criminal conviction.

20 So obviously, Mr. Kwon's truthfulness is certainly at
21 issue in this trial. And under 609(a)(2) we're permitted to
22 offer into evidence any crime that -- to meet the elements of
23 requires dishonest act or false statement. And of course,
24 passport forgery, as we laid out in our motion *in limine*, that
25 qualifies under 609(a)(2). So based on just that his

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1 truthfulness is at issue in this litigation, and based on the
2 testimony and based just in fairness because Mr. Myung, the
3 defense counsel made a big show of offering his conviction into
4 evidence, even though it didn't have to do with truthfulness.
5 So we think just based on the plain language that 609(a)(2), we
6 should be able to offer that conviction into evidence.

7 THE COURT: So let me hear from defense counsel.

8 MR. FERRARA: Thank you, your Honor. Michael Ferrara
9 for Mr. Kwon. First of all, 609 applies to witnesses. We
10 don't have a witness. At best we have a deponent. Not even
11 sure we have a deponent, per your Honor's previous rulings.
12 When we were at side bar I flagged this. And Mr. Connor
13 said -- what your Honor was about to suggest an instruction to
14 the jury that some of what they would hear might be offered for
15 the truth and other things might be considered -- the SEC might
16 think it was false.

17 And Mr. Connor said: Your Honor, the only thing I
18 don't want to overstate what we're doing in terms of putting in
19 false statements. I don't want to overstate what we're doing
20 in terms of putting in what we view to be false statements. I
21 think in large part, what we're putting in is background
22 contracts, stuff like that.

23 Had I understood that they -- I then thought they were
24 putting in largely things that they wanted the jury to believe.
25 Admissions. Had I understood that they were in fact going to

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1 be offering things specifically for the purpose of impeaching
2 them, I would have asked your Honor not to allow that.

3 If they want to strike it, they're welcome to strike
4 it. But the idea that a party can offer testimony that it
5 disbelieves for the purpose of bringing in a conviction, that
6 smacks of gamesmanship. This is a person who was deposed by
7 the SEC. Again, it was investigative testimony, which is
8 different from a deposition has your Honor has already -- we've
9 already discussed, where we have a more limited ability to
10 bring out questioning, etc. They selected all of the testimony
11 to offer. We have asked for zero to be added. And the idea
12 that they can now also offer a conviction to impeach their --
13 this is not, your Honor, like if Mr. Connor had Mr. Kwon on the
14 stand, and even on direct, and Mr. Kwon was giving him the run
15 around, left and right, etc. I would understand Mr. Connor
16 saying to your Honor, Judge, we have to have a chance now to
17 impeach some of this with a conviction. We can't let some of
18 this -- I could understand -- I might oppose it.

19 THE COURT: Let me -- I got your point.

20 MR. FERRARA: Okay.

21 THE COURT: So, first, and then I'll want to hear from
22 the SEC again, I think it's clear that 609 only applies to a
23 witness. So the fact that Mr. Kwon has made numerous
24 statements in Twitter and all like that, which are being
25 attacked, is not a basis for allowing in the conviction of

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1 under 609. 609 is impeachment of a witness.

2 Secondly, if I do allow in the conviction, I'm going
3 to allow in all the other stuff that the -- initially I was
4 going to allow defense counsel to offer. So you should be
5 aware that that is -- my understanding is that if I don't allow
6 it in they're not offering any of that even for completeness,
7 correct?

8 MR. FERRARA: Correct. We will offer nothing if the
9 conviction does not come in.

10 THE COURT: So what's really a little unusual in this
11 case, and it's come up now in several different contents, is
12 that we're not talking even about a deposition here. We're
13 talking about investigative testimony. And as the SEC itself
14 candidly pointed out, that's a very different kind of testimony
15 than normally comes up in trial. So I think that's the real
16 issue. So let me hear anything the SEC wants to say.

17 MR. CONNOR: Your Honor, we understand your Honor's
18 ruling. If we could have just a moment. I think we can
19 resolve this. I would like to confer with my colleagues and
20 then come back to the Court.

21 THE COURT: Okay. Good.

22 MR. CONNOR: Thank you, your Honor. And the next item
23 of business for us is we have a number of exhibits that were
24 stipulated to and some that weren't stipulated to that we would
25 like to -- because we expect some arguments, we would like to

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1 sort of resolve those before the jury comes in.

2 THE COURT: I mean, it was my fault, I got delayed
3 this morning, but I don't want to hold up the jury more than a
4 couple more minutes. But go ahead.

5 MR. CONNOR: Sure. The first item that I expect to be
6 the most controversial, I think the rest we can figure out.
7 But PX 140 is a chat between Do Kwon and Daniel Shin in which
8 they talk about faking blockchain transactions. And the chat
9 is actually a month before they launched Chai. So talking
10 about faking blockchain transactions and they specifically
11 reference Chai. And then the next month they launch Chai. So
12 we think it's clearly relevant.

13 THE COURT: Yeah. What's the objection?

14 MR. CALIFANO: Your Honor, I would like to provide a
15 copy for the Court to look at this.

16 THE COURT: Sure.

17 MR. CALIFANO: In part because this doesn't have to do
18 with Chai. I think that suggestion that Mr. Connor just made
19 is a little too smooth. What this has to do with is the basic
20 operation of the blockchain and trying to generate transactions
21 in order to get validators paid. I understand that what
22 Mr. Connor is focused on is the fact that they are talking
23 about generating transactions just for the sake of generation,
24 but that has nothing to do with the Chai transactions.

25 THE COURT: All right. Let me see.

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1 MR. CALIFANO: Sure. It's on the screen, but I think,
2 your Honor, if it's okay, I have copies for you and your clerk.

3 THE COURT: Yeah. The trouble of the screen
4 unfortunately is -- I don't know why they didn't supply
5 everyone in this courtroom with at least a 6-foot screen so we
6 can all see everything. But let's take a look.

7 MR. CALIFANO: And, your Honor, I'll direct your
8 attention right to the two parts that I believe Mr. Connor is
9 talking about. One is on page 646 going to 647. And the other
10 one is on 649 going to 650.

11 THE COURT: All right. Hang on.

12 Okay. Let me hear from the SEC.

13 MR. CONNOR: Yes, your Honor.

14 The part we're focusing on is not what Mr. Califano
15 said but on 50, the lower right-hand corner.

16 THE COURT: Hang on. Let me get to that.

17 MR. CONNOR: 8650. It starts with: Do Kwon, I can
18 just create fake transactions that look --

19 THE COURT: There we go.

20 MR. CONNOR: And then he talks about: I will try my
21 best to make it indiscernible. I won't tell if you won't.

22 Your Honor, this is -- I mean, even if it weren't
23 related to Chai, it would be --

24 THE COURT: Exactly. At a minimum it's 404(b) but if
25 it's related to Chai it's part of the ongoing claim. So what

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1 about that?

2 MR. CALIFANO: Your Honor, it not only isn't related
3 to Chai, it's related to a completely different functionality
4 of the blockchain.

5 THE COURT: He's talking about how he can secretly
6 create fakes. I mean, you know, what more -- how can that not
7 be relevant?

8 MR. CALIFANO: It would be relevant if it had to do
9 with Chai, your Honor.

10 THE COURT: No. I disagree. I'll consider when I
11 hear it whether a 404(b) instruction if you want one is
12 necessary, but it's at least receivable under 404(b).

13 Where do you stand now? Do you want to consult with
14 your colleagues on the conviction question?

15 MR. CONNOR: Yes. We will drop the conviction.

16 THE COURT: Yeah, okay. I think that makes sense.

17 Anything else?

18 MR. CALIFANO: Your Honor, I think Mr. Connor has one
19 more thing.

20 THE COURT: Okay.

21 MR. CONNOR: Yes, your Honor. There are a bunch of
22 exhibits that we want to move in by stipulation and I don't
23 think there's any objection. We can do that when the jury
24 arrives.

25 THE COURT: Okay.

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1 MR. CONNOR: And I think there's also a couple
2 exhibits that we would like to move in. I don't think there's
3 going to be any controversial objections.

4 THE COURT: Well, let's get the jury in and let's get
5 going. We'll deal with it if necessary at a side bar. Because
6 the jury would be very disappointed if we didn't have at least
7 ten side bars.

8 Let's get the witness on the stand, please.

9 (Continued on next page)

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(In open court; jury present)

THE COURT: Good morning, ladies and gentlemen. You should understand, because I am so impressed by your promptness, that the reason we sometimes don't start right away is we're discussing legal questions that need to get resolved before we begin.

So let's swear in the witness.

THE DEPUTY CLERK: Please stand.

MATTHEW SCOTT LAMBERT,

called as a witness by the Plaintiff,

having been duly sworn, testified as follows:

MR. CONNOR: Thank you, your Honor. And before we start with the testimony, which Ms. Meehan is going to handle, the SEC would just like to move in certain exhibits into evidence.

THE COURT: Go ahead.

MR. CONNOR: The first exhibit is PX -- and we shared this with defense counsel. PX 56.

Mr. Haywood, if you could put that up for the Court.

THE COURT: Go ahead.

MR. CONNOR: This is a statement by Mr. Kwon, which we would offer into evidence.

THE COURT: No objection.

MR. LAFFERMAN: No objection, your Honor.

THE COURT: Received.

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(Plaintiff's Exhibit 56 received in evidence)

MR. CONNOR: The next exhibit PX 59B, which is the subject of a stipulation.

THE COURT: Received.

(Plaintiff's Exhibit 59B received in evidence)

MR. CONNOR: Next exhibit is PX 61, which is the subject of a stipulation as well.

THE COURT: Received.

(Plaintiff's Exhibit 61 received in evidence)

MR. CONNOR: The next exhibit is PX 62, which is e-mails with Jump Trading.

THE COURT: Any objection?

MR. LAFFERMAN: No objection, your Honor.

THE COURT: Received.

(Plaintiff's Exhibit 62 received in evidence)

MR. CONNOR: The next is PX 63, which is further e-mails between Terra and Jump.

THE COURT: Any objection?

MR. LAFFERMAN: No objection.

THE COURT: Received.

(Plaintiff's Exhibit 63 received in evidence)

MR. CONNOR: Next exhibit is Exhibit 64.

THE COURT: Any objection?

MR. LAFFERMAN: One second. No objection.

THE COURT: Received.

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1 (Plaintiff's Exhibit 64 received in evidence)

2 MR. CONNOR: Next exhibit PX 66.

3 THE COURT: Any objection?

4 MR. LAFFERMAN: No objection.

5 THE COURT: Received.

6 (Plaintiff's Exhibit 66 received in evidence)

7 MR. CONNOR: PX 67.

8 THE COURT: Any objection?

9 MR. LAFFERMAN: No objection.

10 THE COURT: Received.

11 (Plaintiff's Exhibit 67 received in evidence)

12 MR. CONNOR: PX 74.

13 THE COURT: Any objection?

14 MR. LAFFERMAN: No objection.

15 THE COURT: Received.

16 (Plaintiff's Exhibit 74 received in evidence)

17 MR. CONNOR: PX 91.

18 THE COURT: Any objection?

19 MR. CONNOR: Which is the subject of a stipulation.

20 THE COURT: Received.

21 (Plaintiff's Exhibit 91 received in evidence)

22 MR. CONNOR: PX 140, which we had a colloquy about
23 earlier, which we would offer.

24 THE COURT: Received for the reasons stated outside
25 the presence of the jury.

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(Plaintiff's Exhibit 140 received in evidence)

MR. CONNOR: PX 150a, which is the subject of a stipulation.

THE COURT: Received.

(Plaintiff's Exhibit 150a received in evidence)

MR. CONNOR: PX 150b.

THE COURT: Any objection?

MR. LAFFERMAN: No objection.

THE COURT: Received.

(Plaintiff's Exhibit 150b received in evidence)

MR. CONNOR: PX 327. I'm sorry. Not 327.

PX 419a.

THE COURT: Any objection?

MR. LAFFERMAN: No objection.

THE COURT: Received.

(Plaintiff's Exhibit 419a received in evidence)

MR. CONNOR: And PX 419b.

THE COURT: Any objection?

MR. LAFFERMAN: I am sorry. I didn't hear that last one.

MR. CONNOR: PX 419b.

MR. LAFFERMAN: No objection.

THE COURT: Received.

(Plaintiff's Exhibit 419b received in evidence)

MR. CONNOR: Thank you, your Honor.

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1 THE COURT: Very good.

2 MS. MEEHAN: Your Honor, if I may read a few
3 stipulations.

4 THE COURT: This is just so much fun. Go ahead.

5 MS. MEEHAN: Thank you.

6 Fact stipulation number 3, Terraform Labs, Ltd.,
7 Terraform BVI was a 100 percent wholly owned subsidiary of
8 Terraform.

9 Fact stipulation number 16, on May 23, 2021, Mr. Kwon
10 communicated with Kanav Kariya, a Jump executive, about the
11 depeg.

12 Fact stipulation number 17, UST prices were reported
13 in coin pairs, such as UST/USDT, and UST/USD, as well as in
14 pairs with other fiat currencies and other crypto tokens. And
15 Luna prices were recorded in coin pairs, such as Luna USDT and
16 Luna USD, as well as in pairs with other fiat currencies and
17 crypto tokens on centralized exchanges that listed UST and
18 Luna, e.g., KuCoin, and were also reported accurately by
19 third-party entities, Coinmarketcap, Kaiko, and Coingecko.

20 Good morning, Mr. Lambert.

21 THE COURT: Oh, I'm sorry. Are you through with the
22 stipulations?

23 MS. MEEHAN: Yes.

24 THE COURT: So I just want to remind, ladies and
25 gentlemen of the jury, there are three kinds of evidence. One

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Lambert - Direct

1 is the testimony which you need in the case of every witness to
2 scrutinize and consider both direct examination and
3 cross-examination. There are the exhibits, and all those
4 exhibits will be given to you in electronic form with an index
5 when you're in your deliberations. So you can find any
6 exhibits you want, but first referencing the index and then
7 finding the corresponding, and we'll send you a laptop and
8 other ways you can see the exhibits.

9 And then the third is a stipulation. I want to remind
10 you, a stipulation is something both sides agree to. So that's
11 a given and you can consider for whatever value it has.

12 Go ahead.

13 DIRECT EXAMINATION

14 BY MS. MEEHAN:

15 Q. Good morning, Mr. Lambert.

16 A. Good morning.

17 Q. Where do you currently work?

18 A. I work for the Securities and Exchange Commission in the
19 division of enforcement.

20 Q. What office do you work out of?

21 A. The New York regional office, 100 Pearl Street.

22 Q. What is the highest degree of education you have obtained?

23 MR. LAFFERMAN: Objection. Relevance.

24 Your Honor, this is a summary witness not an expert.

25 Further discussion of his background is irrelevant. This is

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Lambert - Direct

1 bolstering.

2 MS. MEEHAN: It's just background, your Honor, but I
3 can move on.

4 THE COURT: Yeah, I think defense counsel is right.
5 With a summary witness, it can be the janitor for all it
6 matters, not the janitors aren't wonderful people. But let's
7 move on.

8 BY MS. MEEHAN:

9 Q. Mr. Lambert, what is your position at the Securities and
10 Exchange Commission?

11 MR. LAFFERMAN: Objection, your Honor. Relevance.

12 THE COURT: No, that I think is okay.

13 A. Staff accountant investigator.

14 Q. And in your position as staff accountant investigator at
15 the SEC, what type of work do you do?

16 THE COURT: Sustained. This is a summary witness.
17 What is a summary witness? Summary witness, ladies and
18 gentlemen, is someone who has examined voluminous records and
19 so that you don't have to go through all these records, they
20 will point out sort of the summary that results. So let's get
21 to it.

22 BY MS. MEEHAN:

23 Q. Mr. Lambert, did there come a time when you were assigned
24 to work on this case, *SEC v. Terraform Labs and Do Kwon*?

25 A. Yes.

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Lambert - Direct

1 Q. When was that?

2 A. Two months ago.

3 Q. Were you involved at all in the investigation of this
4 matter?

5 A. No.

6 Q. Briefly describe the work that you've done in connection
7 with this particular case.

8 A. I've reviewed various public statements by Terraform Labs
9 and Do Kwon. I researched and reviewed third -- document
10 products by third parties to the SEC. And I also assisted in
11 the review and preparation of certain summary documents and
12 exhibits.

13 Q. Let's start with the public statements.

14 In preparation for your testimony here today, did you
15 review the publicly available statements made by defendants
16 Terraform and Do Kwon?

17 A. Yes, I did.

18 Q. What type of statements did you review?

19 A. Tweets, blogs, things of that nature.

20 MS. MEEHAN: Mr. Haywood, can you please display
21 Plaintiff's Exhibit 56 for the witness and counsel. This
22 document is already in evidence. You can actually display it
23 for the jury as well.

24 Q. Mr. Lambert, do you recognize this exhibit?

25 A. I do.

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Lambert - Direct

1 Q. What is this document?

2 A. It is a tweet from the account of Do Kwon at the handle
3 d0h0k1.

4 Q. And is there a time stamp on the tweet?

5 A. Yes, there is.

6 Q. What is the date and time stamp?

7 A. May 23, 2021, 3:31 a.m.

8 MS. MEEHAN: And for the record the parties have
9 stipulated that that's eastern time.

10 Q. Mr. Lambert, did you review this Twitter thread?

11 A. Yes, I did.

12 Q. What generally is this Twitter thread speaking about?

13 A. It's talking about the protocols in the UST peg to Luna.

14 Q. Does anywhere in this tweet discuss how the UST's algorithm
15 was performing in response to certain volatility?

16 A. Yes, there are places within the tweet that --

17 Q. Looking at the first two threads in the chain, can you
18 please read those threads into the record?

19 A. Sure. Number one, "it's interesting that cockroaches only
20 come out when the night is darkest. This thread should help
21 you understand what's been going on and how the protocols have
22 responded recently."

23 Continue to two or no?

24 Q. Yes. Number two, please.

25 A. Sure, sorry.

O42ASEC1

Lambert - Direct

1 "The Terra economy continued to be put under extreme
2 test, with both Terra and Luna undergoing sharp contractions.
3 Remember that idiot in the tg rooms that used to ask well, what
4 if everyone starts selling stablecoins and Luna at once? That
5 scenario has indeed happened."

6 Q. And moving down now to number five in the thread. Can you
7 please read that for us, Mr. Lambert?

8 A. Of course.

9 "Why has Luna supply been increasing over the last few
10 days? That's what it's supposed to do. Luna is burned to
11 create UST, and is minted to redeem UST. It's an elastic
12 supply protocol. Sometimes economies contract, and Luna supply
13 has increased to absorb it."

14 Q. Can you please read the thread right below that, number
15 six?

16 A. Yes.

17 "But ser - spelled S-E-R - what happened to Luna
18 price?"

19 "Note that the mechanism above makes demand for Luna
20 cyclical to Terra's economic growth: During rapid growth, Luna
21 does well as supplies shrinks as fundamentals improve. During
22 contractions, the opposite is true."

23 Q. And number nine, please.

24 A. Yes.

25 "On @Anchor_protocol, similar safe-haven

O42ASEC1

Lambert - Direct

1 characteristics have been exhibited with new users coming in.
2 Unfortunately, on the borrowing side, a lot of users have
3 gotten liquidated due to cascading liquidations."

4 Q. And moving down to thread number 16 and 17, can you please
5 read those as well?

6 A. Of course.

7 "Is dollar UST growth manipulated by Terraform Labs?
8 Nobody who's used mirror or Anchor could believe this - but
9 just for clarification, we currently hold only approximately
10 59M UST. Reminder that there's currently over 2 billion in UST
11 stablecoins."

12 Continue?

13 Q. Number 17, continue, please.

14 A. Of course.

15 "In my view, none of the fundamentals in this
16 ecosystem have changed: Number one, the same apps are being
17 developed. Number two, the same robust community exists.
18 Number three, the ecosystem is significantly de-risked for
19 having survived one of the worst market crashes in crypto."

20 MS. MEEHAN: Thank you. You can take that exhibit
21 down.

22 Mr. Haywood, if you can please display for the members
23 of the jury what's already in evidence as Plaintiff's Exhibit
24 74.

25 Q. Mr. Lambert, do you recognize this document?

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Lambert - Direct

1 A. Yes, I do.

2 Q. What is it?

3 A. It's a Twitter post from the account Terra Powered by Luna
4 with the handle @Terra_money.

5 Q. What date was this tweet posted?

6 A. May 24, 2021.

7 Q. And if you can please read the tweet.

8 A. Of course.

9 "Terra's not going anywhere, frens - spelled F-R-E-N-S
10 - \$1 parody on UST already recovered."

11 And then there is a web link to website
12 Coingecko.com/en/coins/Terra.

13 Q. Mr. Lambert what is Coingecko.com?

14 A. That is a website that disseminates a value for various
15 crypto assets.

16 MS. MEEHAN: You can take that exhibit down. Thank
17 you.

18 Q. Mr. Lambert, in connection with your work on this case, did
19 you also have an opportunity to review any podcast interviews?

20 A. Yes, I did.

21 Q. Did these podcast interviews include Do Kwon?

22 A. Yes, they did.

23 Q. And is that Plaintiff's Exhibit 59a?

24 A. It's not on my screen yet.

25 Q. Did you listen to a podcast video that's listed in

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Lambert - Direct

1 Plaintiff's Exhibit 59a?

2 A. Oh, yes, I did.

3 MS. MEEHAN: Your Honor, the parties have stipulated
4 to the admissibility of Plaintiff's Exhibit 59a, and at this
5 time we move to admit it into evidence.

6 THE COURT: Received.

7 (Plaintiff's Exhibit 59a received in evidence)

8 MS. MEEHAN: And if you could please, Mr. Haywood --
9 not that exhibit.

10 Mr. Haywood, if you could display for the witness
11 what's already in evidence as Plaintiff's Exhibit 59b.

12 Q. Mr. Lambert, what is the date of the interview?

13 A. That is March 1, 2022.

14 Q. What is the name of the podcast?

15 A. The podcast is "The Ship Show" episode one, Kanav Kariya
16 and Do Kwon talk DeFi.

17 Q. Where was this podcast posted?

18 A. This was posted on Terraspaces.org.

19 Q. And did you listen to the entire interview online?

20 A. Yes, I did.

21 Q. Did Do Kwon discuss the May 2021 depeg event relating to
22 UST in this podcast?

23 A. Yes, he did.

24 Q. Was a clip prepared of that portion of the interview?

25 A. Yes.

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Lambert - Direct

1 Q. And is that what's contained in Plaintiff's Exhibit 59a?

2 A. Yes.

3 MS. MEEHAN: Mr. Haywood, if you could please play the
4 clip of the portion of the Plaintiff's Exhibit 59a?

5 MR. FERRARA: Your Honor, before that I think counsel
6 said we were looking at 59b, like Bravo, but what we were
7 looking at for the record was 59.

8 MS. MEEHAN: Apologies.

9 MR. FERRARA: No worries.

10 THE COURT: Okay.

11 (Video played)

12 BY MS. MEEHAN:

13 Q. Mr. Lambert, you said there were multiple participants
14 during this interview. Who was speaking during that portion of
15 the clip?

16 A. That was Do Kwon.

17 Q. Mr. Lambert, in connection with your work on this case, did
18 you have an opportunity to help prepare and review a summary
19 chart?

20 A. Yes, I did.

21 MS. MEEHAN: Can we please pull up for the witness
22 Plaintiff's Exhibit 280.

23 Q. Mr. Lambert, do you recognize this document?

24 A. Yes, I do.

25 Q. Is this a summary chart that you helped review and prepare?

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Lambert - Direct

1 A. Yes, it is.

2 Q. What information does it include?

3 A. It contains various tweets, blog entries, interview
4 notation. Also has listing announcements and investor -- and
5 also information on various investor sales and purchases.

6 Q. Mr. Lambert, is this chart an accurate reflection of the
7 public statements that you just testified to and others that
8 have been admitted at trial?

9 A. Yes, it is.

10 Q. Is it also an accurate reflection of public statements that
11 you reviewed relating to listings Luna and UST?

12 A. Yes, it is.

13 Q. And does it also reflect underlying records that you
14 reviewed relating to investor purchases of Luna and UST?

15 A. Yes, it does.

16 MS. MEEHAN: At this time, the SEC offers Plaintiff's
17 Exhibit 280 into evidence, as well as the remaining source
18 documents, which would be those cited in the chart, and include
19 Plaintiff's Exhibit 276, 352, 540, 343, and 225.

20 THE COURT: Any objection?

21 MR. LAFFERMAN: Your Honor, can we go one by one with
22 each of the exhibits?

23 THE COURT: All right.

24 MS. MEEHAN: Mr. Haywood, can you start with
25 Plaintiff's Exhibit 276.

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Lambert - Direct

1 MR. LAFFERMAN: No objection.

2 THE COURT: Received.

3 (Plaintiff's Exhibit 276 received in evidence)

4 MR. FERRARA: Your Honor, sorry, for Mr. Kwon. We
5 have no objection. Sometimes these online posts have comments
6 towards the end, I just can't see. But we would just --
7 subject to a conversation if there are some extraneous comments
8 that might be irrelevant, but we can talk about that with SEC
9 afterwards. Thank you.

10 THE COURT: All right.

11 MS. MEEHAN: Plaintiff's Exhibit 352.

12 MR. LAFFERMAN: I think that's stiped. No objection.

13 THE COURT: Received.

14 (Plaintiff's Exhibit 352 received in evidence)

15 MS. MEEHAN: Plaintiff's Exhibit 540.

16 MR. LAFFERMAN: No objection.

17 THE COURT: Received.

18 (Plaintiff's Exhibit 540 received in evidence)

19 MS. MEEHAN: Plaintiff's Exhibit 343.

20 MR. LAFFERMAN: No objection.

21 THE COURT: Received.

22 (Plaintiff's Exhibit 343 received in evidence)

23 MS. MEEHAN: And Plaintiff's Exhibit 225.

24 MR. LAFFERMAN: No objection.

25 THE COURT: Received.

O42ASEC1

Lambert - Direct

1 (Plaintiff's Exhibit 225 received in evidence)

2 MS. MEEHAN: So, at this time, the SEC offers
3 Plaintiff's Exhibit 280 into evidence.

4 MR. LAFFERMAN: No objection.

5 THE COURT: Received.

6 (Plaintiff's Exhibit 280 received in evidence).

7 MS. MEEHAN: Mr. Haywood, you can please display that
8 for the jury.

9 Q. Mr. Lambert, what is the time period that is covered here?

10 A. The time period runs from December 2020 to April 2022.

11 Q. Can you please tell us what are the items above the red
12 line?

13 A. The items above the red lines are tweets from Do Kwon or
14 Terraform Labs.

15 Q. Do they include other public statements as well?

16 A. Yes, they do.

17 Q. What are those other public statements that are included?

18 A. A blog, which is the community update, and the launch of
19 Anchor protocol.

20 Q. What are the items below the red line?

21 A. Those are various listing announcements put out by
22 Terraform Labs.

23 Q. Were the listings and purchases during the same time period
24 of the defendants' statements we covered in your testimony here
25 today?

O42ASEC1

Lambert - Direct

1 A. Yes, they are.

2 Q. And is there anything else included in this chart that we
3 haven't already discussed?

4 A. Well, to the right there's the investor purchases and
5 sales. Do you mean that?

6 Q. Yes. Thank you.

7 A. Yes.

8 MS. MEEHAN: Mr. Haywood, you can take that exhibit
9 down.

10 Q. Mr. Lambert, in connection with your work on this case, did
11 you also review documents that were produced to the SEC by
12 third parties?

13 A. Yes, I did.

14 Q. Tell me about the documents that you reviewed.

15 A. I reviewed public -- let me just gather my thoughts, if you
16 would.

17 I reviewed various public statements by Do Kwon and
18 Terraform Labs. And can you repeat the question again so I can
19 make sure I have the whole --

20 Q. Sure. I'm asking about the documents you reviewed that
21 were produced to the SEC by third parties in this case?

22 A. Okay. I reviewed documents by Jump Trading and Terraform
23 Labs.

24 Q. Specifically what types of documents did you review?

25 Let me rephrase.

O42ASEC1

Lambert - Direct

1 A. Yes.

2 Q. Did you review any agreements and contracts?

3 A. Yes, I did.

4 Q. And did you review communications relating to those
5 agreements and contracts produced by Jump Trading and Terraform
6 Labs?

7 A. Yes, I did.

8 MS. MEEHAN: Mr. Haywood, if you could please pull up
9 Plaintiff's Exhibit 60, which is already in evidence.

10 Q. Mr. Lambert, do you recognize that document?

11 A. Yes, I do.

12 Q. What is it?

13 A. It is a loan agreement made between Terraform Labs Limited,
14 the lender, and Tai Mo Shan Limited, the borrower.

15 Q. And is this one of the documents that you reviewed in
16 connection with your work in this case?

17 A. Yes, it is.

18 Q. And was this document produced to the SEC by Jump Trading?

19 A. Yes, it was.

20 Q. And at the bottom of the document do you see a signature
21 there?

22 A. Yes, I do.

23 Q. Who signed the agreement?

24 A. It was signed by Do Kwon and also by Tak Fujishima.

25 Q. And what is the date the agreement was signed?

O42ASEC1

Lambert - Direct

1 A. Do Kwon signed the agreement on September 7th -- excuse me.
2 September 7, 2020. And Tak Fujishima signed it on September 8,
3 2020.

4 Q. And who did Tak Fujishima sign on behalf of?

5 A. Tai Mo Shan Limited.

6 Q. Going back to the first page of the document and directing
7 your attention to where it says "loaned VC". Can you tell me
8 what this was a loan for?

9 A. Sure. It's a loan for 65 million Luna, which is the
10 virtual currency, subject to the conditions and to be delivered
11 to borrower at the time specified below.

12 Q. Is there a repayment price for the Luna reflected here?

13 A. Yes, there is.

14 Q. What is it?

15 A. Forty cents.

16 Q. And moving down, do you see the provision there that says
17 "loan conditions and timing?"

18 A. Yes, I do.

19 Q. What does the first sentence say there?

20 A. It says, "for purposes of this loan confirmation, the
21 borrower group includes borrower and any of borrower's
22 affiliates."

23 Q. Is there a loan term contained in the agreement?

24 A. Yes, there is.

25 Q. What is the loan term?

O42ASEC1

Lambert - Direct

1 A. I can't see it past the expanded -- the loan term agreement
2 says, "the loan term shall be separately measured for each
3 tranche specified below. The loan term for each tranche shall
4 end two years from the date of completion of the first Luna
5 delivery for that particular tranche."

6 Q. Now, Mr. Lambert, can you tell from the agreement what are
7 the loan tranches that the provision is referring to?

8 A. There's a series of tranches, exactly, that set out how
9 many Luna coin are to be delivered under certain conditions and
10 delivery terms.

11 Q. And for tranches one through seven listed there, what are
12 the conditions that are associated with those tranches?

13 A. Those terms relate to Borrower Group Terra Stablecoin Net
14 Creations.

15 Q. Is there a definition for Borrower Group Terra Stablecoin
16 Net Creations on this document?

17 A. Yes, there is, on the first page.

18 MS. MEEHAN: Can we please go the first page and go to
19 that definition.

20 Q. Mr. Lambert, can you please read what the definition is.

21 A. Sure. Shall I skip down to the third paragraph?

22 Q. Yeah, just the definition of the term.

23 A. "Borrower Group Terra Stablecoin Net Creations shall equal
24 Borrower Group Terra Stablecoin Creations minus Borrower Group
25 Terra Stablecoin Redemptions."

O42ASEC1

Lambert - Direct

1 Stop there or keep going?

2 Q. Keep going.

3 A. Thank you.

4 "Borrower Group Terra Stablecoin Creations shall equal
5 a total dollar value of Terra stablecoins created by borrower
6 (whether by using the Terra protocol or via OTC transactions
7 with lender or one of lender's affiliates). Borrower group
8 redemptions shall equal the total dollar value of Terra
9 stablecoins redeemed by borrower (whether by using the Terra
10 protocol or via OTC transactions with lender or one of the
11 lender's affiliates)."

12 Q. Thank you.

13 Mr. Lambert, going back to the tranches, can you
14 please tell us what were the conditions associated with
15 tranches, the remaining tranches 8 through 13 in this
16 agreement?

17 A. Those were related to average daily trading volume.

18 Q. Thank you. And who in the agreement was required to meet
19 the condition relating to average daily trading volume?

20 A. Jump Trading.

21 Q. And what about the condition relating to net stablecoin
22 creations?

23 A. Same, Jump Trading.

24 MS. MEEHAN: And if you could just go up, Mr. Haywood,
25 back to page 3. I'm sorry, page 2.

O42ASEC1

Lambert - Direct

1 Q. Mr. Lambert, can you tell us what the column that says
2 "quantity" there reflects?

3 A. Sure. That is referring to the virtual currency Luna.

4 MS. MEEHAN: You can take that one down.

5 Mr. Haywood, could you please display for the witness
6 only Plaintiff's Exhibit 65b.

7 Q. Mr. Lambert, do you recognize this document?

8 A. I do.

9 Q. What is it?

10 A. It is an amended and restated loan confirmation agreement
11 between Terraform Labs Limited, the lender, and Tai Mo Shan
12 Limited, the borrower.

13 MS. MEEHAN: Your Honor, the parties have stipulated
14 to the admissibility of Plaintiff's Exhibit 65b, and at this
15 time we move to admit it into evidence.

16 THE COURT: Received.

17 (Plaintiff's Exhibit 65b received in evidence)

18 Q. Directing you to the bottom of this document, Mr. Lambert,
19 who signed it?

20 A. Who signed on behalf of Terraform Labs by Do Kwon.

21 Q. Who signed on behalf of the borrower?

22 A. The borrower Tai Mo Shan Limited is signed by Tak
23 Fujishima.

24 Q. What was the date the agreement was signed?

25 A. April 1, 2021, by Do Kwon, and April 2, 2021, by Tak

O42ASEC1

Lambert - Direct

1 Fujishima.

2 Q. Going back to the first page of the document. Does this
3 amended and restated loan confirmation reference what it was an
4 amendment to?

5 A. Yes, it does.

6 Q. What was it an amendment to?

7 A. It states that "this amended and restated loan confirmation
8 amends and restated the loan confirmation between the parties
9 dated September 8, 2020."

10 Q. And is the loan confirmation dated September 8, 2020, is
11 that the document that we were just discussing that's reflected
12 in Plaintiff's Exhibit 60?

13 A. Yes.

14 Q. And have you reviewed this document to determine what if
15 any changes were made from the September 2020 agreement?

16 A. Yes, I did.

17 Q. And were there changes?

18 A. Yes, there were.

19 Q. What were the changes that were made?

20 A. Specifically tranches 5 through 7, the conditions for -- to
21 receive the Luna coin were increased significantly.

22 Q. Thank you. And if we could just please go to tranches 5
23 through 7.

24 And, Mr. Lambert, if you could just walk us through,
25 when you say the conditions were increased, what do you mean by

O42ASEC1

Lambert - Direct

1 that?

2 A. I believe for instance tranche number 5, 100,000,000 in
3 stablecoin creations were now necessary to satisfy the
4 agreements compared to originally 20 million. So that's a
5 five-fold increase. And I should add that, but with that
6 five-fold increase, they get twice as much Luna currency.

7 Q. And what about for tranche number 6, what were the changes
8 to tranche number 6?

9 A. That tranche went from -- thank you. That tranche went
10 from 35 million in the first agreement to 250 million in the
11 second agreement, also for 10 million Luna. So a factor of
12 roughly seven-fold to receive twice as much Luna.

13 Q. And for tranche number 7, what were the changes to tranche
14 number 7?

15 A. That tranche went to 500 million from the previous
16 50 million. Yeah, there it is. 50 million. So that's a
17 factor, ten-fold factor increase to receive twice as much Luna.

18 Q. Thank you. Are there any additional changes made to this
19 amended agreement in April from the September 2020 agreement?

20 A. Can you scroll down through the rest of the agreement,
21 please. I am just confirming. Tranches 11, 12, and 13 were
22 canceled in the second agreement.

23 MS. MEEHAN: Thank you. Mr. Haywood, at this time
24 could you please display for the witness only Plaintiff's
25 Exhibit 84.

O42ASEC1

Lambert - Direct

1 Q. Mr. Lambert, do you recognize this document?

2 A. Yes, I do.

3 Q. What is it?

4 A. It's a document that summarizes the communications I
5 reviewed relating to the loan agreement between Jump Trading
6 and Terraform Labs. And the e-mails supporting the various
7 vesting of some of the tranches in that agreement.

8 Q. Did you assist in the review and preparation of this
9 exhibit?

10 A. Yes, I did.

11 Q. Is the information contained in this timeline accurate?

12 A. Yes, it is.

13 Q. How do you know?

14 A. I reviewed the underlying supporting documentation.

15 Q. Did you compare it to what's contained in the chart?

16 A. Yes, I did.

17 Q. And did you confirm that it was accurate?

18 A. Yes.

19 MS. MEEHAN: At this time the SEC offers Plaintiff's
20 Exhibit 84 into evidence. And I believe all the underlying
21 documents are already in evidence with the exception of
22 Plaintiff's Exhibit 69b, which is stipulated to by the parties.

23 MR. LAFFERMAN: Your Honor, may we have a side bar on
24 this?

25 THE COURT: All right. But just to deal with -- is

O42ASEC1

Lambert - Direct

1 there any objection to 59, not to one, to the Exhibit 84, but
2 to 59b?

3 MR. LAFFERMAN: No objection, your Honor.

4 THE COURT: So that's received, and we'll have a side
5 bar on 84.

6 (Plaintiff's Exhibit 69b received in evidence)

7 (Continued on next page)

O42ASEC1

Lambert - Direct

1 (At sidebar)

2 MR. LAFFERMAN: We will just point out that we got a
3 different version of this chart and I think that we weren't
4 actually provided this chart previously. This is the most
5 recent chart that we got and you added some.

6 THE COURT: I'm sorry. Are you having a private
7 conversation with counsel? And, if so, go somewhere else and
8 have it.

9 MR. LAFFERMAN: I apologize, your Honor. We would
10 object on the fact that this wasn't provided to us within 24
11 hours pursuant to the Court's rule.

12 THE COURT: What's the difference between what I was
13 shown?

14 MS. MEEHAN: Your Honor, I can explain. I think it
15 was as miscommunication.

16 THE COURT: I'm sorry. You have to speak so I can
17 hear.

18 MS. MEEHAN: Apologies. It's the same information
19 contained. The difference is just that it reflects Terra's
20 confirmations as opposed to Jump's requests.

21 THE COURT: Okay. So that objection is overruled.
22 Now, there was something else?

23 MR. LAFFERMAN: No, that's it.

24 THE COURT: That was it. Received.

25 (Continued on next page)

O42ASEC1

Lambert - Direct

1 (In open court; jury present)

2 THE COURT: Plaintiff's Exhibit 84 is received.

3 (Plaintiff's Exhibit 84 received in evidence)

4 MR. LAFFERMAN: Your Honor, we want to correct. I
5 think that counsel had moved in 69b. I think you had said 59b.
6 We wanted to clarify we have no objection to 59b.

7 THE COURT: No, I already received that.

8 MR. LAFFERMAN: Okay. Great.

9 MS. MEEHAN: Thank you, your Honor.

10 Mr. Haywood, if you could please display Plaintiff's
11 Exhibit 84 for the members of the jury.

12 Q. Mr. Lambert, what timeframe is reflecting here?

13 A. The timeframe runs from January 20, 2021 through August 20,
14 2021.

15 Q. Did you review the underlying exhibits that are reflected
16 here in this chart?

17 A. Yes, I did.

18 Q. Who were the e-mails between?

19 A. Between Jump Trading and Terraform Labs.

20 Q. What generally did the e-mails discuss?

21 MR. FERRARA: Objection to this, your Honor. The
22 documents speak for themselves. That's improper summary.

23 THE COURT: Overruled.

24 Q. Mr. Lambert, what generally did the e-mails discuss?

25 A. Generally the e-mails were communications between -- from

O42ASEC1

Lambert - Direct

1 Jump Trading to Terraform Labs stipulating that they met
2 certain vesting requirements for the delivery of Luna coin.

3 Q. Did that relate to the agreements we've been discussing?

4 A. Yes, it did -- or does.

5 Q. Were you able to conduct a thorough review of the e-mails
6 against the September 2020 contract to determine whether
7 certain tranches have been fulfilled?

8 A. Yes, I did.

9 Q. Based on that review, which tranches were you able to
10 determine had been fulfilled?

11 A. Tranches 1 through 4 and 8 to 9.

12 Q. As of what date were those Tranches that you referred to
13 just fulfilled?

14 A. April 7th, there's an e-mail stipulating that tranche 2, 3,
15 and 4. And then should I continue?

16 Q. So was your answer April 7th?

17 A. Yes, April 7th for tranches 2, 3, and 4.

18 Q. Thank you. And just as a reminder, what was the date that
19 the amended loan confirmation, which changed the tranches 5
20 through 7 was signed?

21 A. That was signed April 2nd.

22 Q. Directing you to April 27th, 2021, as reflected on the
23 timeline, what happened on that date?

24 A. April 27th on the timeline? Terra confirms delivery of
25 additional Luna.

O42ASEC1

Lambert - Direct

1 Q. At that point, based upon your review of these underlying
2 e-mails, were you aware that any Tranches were still
3 outstanding?

4 A. Yes.

5 Q. Which tranches were those?

6 A. Tranches 5 through 7, and tranche 10.

7 Q. And were those the Tranches from the April amendment that
8 we discussed?

9 A. Yes.

10 Q. And in connection with your review of these agreements and
11 communications contained in this chart, did you search for any
12 additional documents relating to these agreements?

13 A. Yes, I did.

14 Q. Where did you conduct those searches?

15 A. In the SEC's internal database.

16 Q. And from what document productions did you conduct those
17 searches?

18 A. Both Jump Trading and Terraform Labs.

19 Q. What was the result of your searches?

20 A. I found no additional documents with any -- the mention of
21 any tranches or vesting.

22 Q. So, in other words, did you find any e-mails like the ones
23 that we've been discussing confirming vesting of any of the
24 outstanding tranches?

25 A. No, I did not.

O42ASEC1

Lambert - Direct

1 Q. Mr. Lambert, directing you to July 22, 2021. What happened
2 on that day?

3 A. A second amended loan confirmation is signed with a new
4 schedule of delivering Luna to Jump.

5 MS. MEEHAN: And, Mr. Haywood, if you could please
6 pull up Plaintiff's Exhibit 69b, which is already in evidence.

7 Q. Mr. Lambert, do you recognize this document?

8 A. Yes, I do.

9 Q. What is it?

10 A. A it is a second amended and restated loan confirmation
11 between Terraform Labs Limited, the lender, and Tai Mo Shan
12 Limited, the borrower.

13 Q. Did you compare this July 2021 agreement to the amended and
14 restated loan agreement dated April 2nd, 2021, that's contained
15 in Plaintiff's Exhibit 65b?

16 A. Yes, I did.

17 Q. And were you able to determine if there were any changes?

18 A. Yes.

19 Q. What were the changes?

20 A. Essentially all the conditions were removed for delivery of
21 Luna.

22 MS. MEEHAN: Thank you. You can take that exhibit
23 down.

24 Q. Mr. Lambert, in the searches that you ran between -- and
25 I'm talking about the searches that you ran through the SEC's

O42ASEC1

Lambert - Direct

1 internal database.

2 A. Mm-hmm.

3 Q. Between April 27, 2021, and July 22, 2021, were there any
4 communications between Terraform Labs and Jump Trading relating
5 to the reporting and confirmation of the outstanding tranches
6 that we've been discussing?

7 A. I'm sorry. Can you just -- that was a lot. Can you repeat
8 it again for me please?

9 Q. In the searches that you ran between April 27, 2021, and
10 July 22, 2021, were there any communications between Jump
11 Trading and Terraform Labs relating to the reporting and
12 confirmation of the outstanding tranches?

13 MR. FERRARA: Objection to the reference to the SEC's
14 internal database, your Honor.

15 THE COURT: Overruled.

16 Q. You can answer the question, Mr. Lambert.

17 A. No, there were not.

18 Q. Mr. Lambert, do you have any personal knowledge relating to
19 the e-mails in the agreements that we've just discussed other
20 than the review that you conducted with them in connection with
21 this case?

22 A. No, I do not.

23 Q. And everything that we've just discussed here today, that
24 was based on your review of these agreements and
25 correspondence, right?

O42ASEC1

Lambert - Cross

1 A. Yes, it is.

2 Q. Do you have any personal knowledge as to whether the public
3 statements that we discussed earlier in your testimony are true
4 or false?

5 A. No, I do not.

6 MS. MEEHAN: Thank you. No further questions.

7 THE COURT: Cross-examination.

8 CROSS-EXAMINATION

9 BY MR. LAFFERMAN:

10 Q. Good morning, Mr. Lambert.

11 A. Good morning.

12 Q. My name is Matt Lafferman. I am one of the attorneys for
13 Terraform Labs.

14 Just to be clear, we've never met before, correct?

15 A. That is correct, sir.

16 Q. So you testified a little about your knowledge of is this
17 case on direct. I just want to clarify you started working on
18 this case two months ago; is that right?

19 A. Yes, sir.

20 Q. And never spoken to any current or former employees of
21 Terraform Labs; is that correct?

22 A. No, I have not.

23 Q. And you have never spoken to any current or former
24 employees of Jump; is that correct?

25 A. That is correct.

O42ASEC1

Lambert - Cross

1 Q. And before two months ago, you had no involvement in the
2 case; is that correct?

3 A. That is absolutely correct.

4 Q. So you don't have any knowledge of the case other than the
5 documents that have been provided to you by the SEC trial team?

6 A. Yes, sir. That's correct.

7 MR. LAFFERMAN: Mr. Haywood, could you please bring up
8 P-84 in evidence and publish it for the jury. Thank you.

9 Q. Mr. Lambert, on direct you testified to this Jump Luna UST
10 timeline, right?

11 A. Yes, sir.

12 Q. And this timeline includes loan agreements between Jump and
13 Terraform Labs, correct?

14 A. Yes, sir.

15 Q. And is it fair to say that it also includes other documents
16 that are related to the loan agreement?

17 A. Yes.

18 Q. Which you didn't choose the documents to include in this
19 chart, correct?

20 A. No, I did not.

21 Q. The SEC trial team gave you the documents that they wanted
22 to put on the timeline, and that's what you did, you put them
23 on the timeline; is that correct?

24 A. Yes, sir.

25 MR. LAFFERMAN: You can take this down, Mr. Haywood.

O42ASEC1

Lambert - Cross

1 Thank you.

2 Mr. Aquino, can you please bring up P-259 in evidence
3 and publish it for the jury.

4 Q. Mr. Lambert, can you read the recipient and sender of this
5 e-mail thread?

6 A. The bottom of the chain or the top?

7 Q. Let's start with the bottom of the chain.

8 A. From Do Kwon at the account Do@Terramoney. Sent to
9 kanavkariya@jumptrading.com.

10 Q. Thank you. And you can you read the first, right under "hi
11 Kanav," the first portion here.

12 A. Sure.

13 "Sorry for missing your call yesterday. Please call
14 me sometime my tomorrow morning after 10:00 a.m. I'm pretty
15 widely available."

16 MS. MEEHAN: I'm sorry, your Honor. Can we stop for a
17 minute.

18 Apologies.

19 A. Should I continue?

20 Q. Yes. I'm sorry about that.

21 A. Sure.

22 "I just wanted to jot down some notes around
23 discussion items to focus the discussion."

24 Q. Thank you. So is it fair to say that this e-mail
25 references notes around discussions that Do wants -- Mr. Kwon

O42ASEC1

Lambert - Cross

1 wants to talk about Mr. Kariya about?

2 MS. MEEHAN: Objection, your Honor.

3 THE COURT: Ground?

4 MS. MEEHAN: He's asking the witness to characterize
5 the evidence.

6 THE COURT: Well, you to some extent opened that door.
7 But you did it in a more general sense, so I will sustain the
8 objection.

9 MR. LAFFERMAN: I'll move on.

10 Q. So if you look at the date of this e-mail, it is June 30,
11 2021; is that correct?

12 A. Yes, sir, that's correct.

13 Q. And that's more than a month after May 23, 2021?

14 A. Yes, it would be.

15 MR. LAFFERMAN: And, Mr. Aquino, can you scroll to the
16 next page, please.

17 Well, actually, can you take this down. I apologize.

18 Mr. Haywood, can you bring up P-84 and publish it for
19 the jury, please.

20 Q. So as of the date of that e-mail, June 30, 2021, the last
21 loan agreement that's referenced on your chart is the May 2,
22 2021, loan agreement; is that correct?

23 MS. MEEHAN: I'm sorry. Can you repeat the question?

24 Q. As of June 30th, the date of that e-mail, the last loan
25 agreement that's referenced on your chart is the April 2, 2021,

O42ASEC1

Lambert - Cross

1 loan agreement; is that correct?

2 A. Yes.

3 MS. MEEHAN: Objection, your Honor. The document
4 speaks for itself.

5 THE COURT: Sustained.

6 MR. LAFFERMAN: Can you go back to -- I'm sorry.
7 Mr. Haywood, can you please take that down.

8 And, Mr. Aquino, can you please bring up P-259 in
9 evidence and publish for the jury and can you scroll to the
10 second page. And, Mr. Haywood, the top of this document --
11 this again is the June 30th e-mail, correct? I'm sorry. Go
12 back one page. I'm sorry.

13 Q. This is the June 30th, 2021 e-mail we were just looking at?

14 A. Yes, it appears to be. I mean, right now on my screen it's
15 blocking -- the magnified version is blocking the -- what's
16 underneath it, but yes.

17 (Continued on next page)

O42HSec2

Lambert - Cross

1 MR. LAFFERMAN: OK. Mr. Aquino, could you go to the
2 next page, please.

3 Q. So, Mr. Lambert, could you read the top of that section
4 under — next to one.

5 A. Below one? One, says Luna loan agreement.

6 Q. Could you read the last paragraph of that page.

7 A. Before it steps down to two, sir?

8 Q. Before it steps down to two. I apologize.

9 A. "Further, we paused all distributions of the Luna tokens to
10 employees and investors during the tax audit to allay
11 authorities' capital flight concerns. We ask this new
12 agreement kick in in September given the audit is expected to
13 complete on August 23."

14 Q. This document references a new loan agreement, is that
15 correct?

16 MS. MEEHAN: Objection, your Honor. Mischaracterizes
17 the document. It also lacks foundation.

18 THE COURT: Well, the first objection is overruled.
19 The second one is sustained.

20 MR. LAFFERMAN: Could you go back to the prior page,
21 please, Mr. Aquino.

22 Q. And this document is only between Mr. Kuan and Mr. Kariya,
23 is that correct?

24 A. Yes, I do not see any other people cc'd on the document.

25 Q. No other recipients or senders of this email chain?

O42HSec2

Lambert - Cross

1 A. Not that I can see.

2 MR. LAFFERMAN: You can take this down. Thank you,
3 Mr. Aquino.

4 Mr. Haywood, can you please put up P-84 now, and
5 publish it for the jury. Thank you.

6 Q. And, Mr. Lambert, your timeline references the second
7 amended loan agreement confirmation was signed July 22, 2021?

8 A. Yes, that's correct.

9 Q. And your chart didn't identify when drafts of this second
10 amended loan confirmation agreement were exchanged by Terraform
11 Labs and Jump?

12 A. No.

13 Q. Now, P-84, we were just looking at here, references
14 delivery of Luna several times in this email. I believe you
15 testified about that on your direct.

16 Can you explain a little bit more for the jury about
17 what the references to delivery — the delivery of Luna are
18 references to.

19 A. Well, depending on the loan conditions, if they were met,
20 then Jump Trading received delivery of the Luna coin.

21 Q. And the last delivery of Luna on this chart is April 27,
22 2021, is that correct?

23 A. Yes.

24 Q. And this chart does not reference any other deliveries of
25 Luna after that date, is that correct?

O42HSec2

Lambert - Redirect

1 A. No, it does not.

2 MR. LAFFERMAN: Thank you, Mr. Haywood. You can take
3 that down.

4 Mr. Haywood, could you please put up P-280 in evidence
5 and publish for the jury.

6 Q. Mr. Lambert, you also testified to the timeline Luna UST
7 timeline, is that correct?

8 A. Yes, I did.

9 Q. And, again, you didn't choose the documents to include on
10 this chart, is that right?

11 A. No, I did not.

12 Q. The SEC trial team gave you the documents that they wanted
13 you to put on the timeline, and that's what you did, you put
14 them on the timeline, is that correct?

15 A. Yes, sir.

16 MR. LAFFERMAN: No further questions.

17 THE COURT: Anything else?

18 MS. MEEHAN: Yes, just briefly, your Honor.

19 Mr. Haywood, could you please pull up Plaintiff's
20 Exhibit 84.

21 REDIRECT EXAMINATION

22 BY MS. MEEHAN:

23 Q. Mr. Lambert, do you see on this timeline there's a box
24 July 22, 2021?

25 A. Yes.

042HSec2

Lambert - Redirect

1 Q. And what does that box reference?

2 A. Says, "The second amended loan confirmation is signed with
3 a new schedule of delivering Luna to Jump."

4 Q. And is that the agreement that we discussed in your direct
5 testimony that lifted the conditions?

6 A. Yes, it is.

7 Q. And just following that, there's a bubble that says
8 "August 31"?

9 A. Yes.

10 Q. Can you please read what's referenced there.

11 A. Sure.

12 "Email from Jump to Terra asking for delivery of Luna
13 under the new schedule."

14 Q. Thank you.

15 When does this timeline end?

16 A. The timeline at the bottom is cut off at August 20, 2021.
17 That is an August 31 entry.

18 MS. MEEHAN: Thank you. No further questions.

19 THE COURT: Anything else?

20 MR. LAFFERMAN: Nothing from defense.

21 THE COURT: Very good. Thank you very much. You may
22 step down.

23 Please call your next witness.

24 (Witness excused)

25 MS. CUELLAR: Your Honor, before that we just have a

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Lambert - Redirect

1 few stipulations.

2 THE COURT: Why am I not surprised.

3 MS. CUELLAR: Stipulation regarding witness William
4 DiSomma's invocation of his rights under the Fifth Amendment to
5 the United States Constitution.

6 William DiSomma is a principal of Jump Crypto Holdings
7 LLC, which was formed in 2018, at which time it was called
8 1Hold1 LLC and serves as a holding company whose foreign
9 subsidiaries include Tai Mo Shan Limited, focus on trading and
10 investing in the cryptocurrencies markets.

11 Mr. DiSomma graduated from the University of Illinois
12 at Urbana-Champaign in 1986 with a degree in finance. He has
13 spent his entire career in the financial industry.

14 Mr. DiSomma's attorneys have advised the parties that
15 if Mr. DiSomma were called to testify at trial, Mr. DiSomma
16 would invoke his Fifth Amendment rights and decline to answer
17 questions posed by the parties related to the claims asserted
18 in this case.

19 THE COURT: So, ladies and gentlemen, I want to remind
20 you with respect to the invocation of the Fifth Amendment, in a
21 civil case like this, you may if you wish, but you are not
22 required to, draw an adverse inference from the invocation of
23 the Fifth Amendment. You're going to hear argument on
24 summation about this from counsel, and I'm going to give you
25 more detailed instructions in my final instructions.

O42HSec2

Lambert - Redirect

1 But the point is you may feel that the reason they're
2 invoking the Fifth in this case is because the answers that
3 they would give would be supportive of the SEC's position or
4 irrelevant, and that's a choice that you would have to make.
5 You may decide you don't have enough information to even draw
6 an adverse inference. And in each case, you'd need to look at
7 who's invoking the Fifth, what their position was, and the
8 evidence you have heard and whether you think an adverse
9 inference follows from the invocation of the Fifth or not.

10 So it's a highly individualized and highly
11 discretionary call on your part, but you can, if you wish, draw
12 an adverse inference. As I say, I'll give you more detailed
13 instructions on this later.

14 MS. CUELLAR: Your Honor, we have one more for
15 Mr. Kariya.

16 THE COURT: Go ahead.

17 MS. CUELLAR: Stipulation regarding Kanav Kariya's
18 invocation of his rights under the Fifth Amendment to the
19 Constitution of the United States.

20 Kanav Kariya is the president of Jump Crypto. He has
21 held that position since September 2021. Jump Crypto is part
22 of the Jump Trading Group, which is a diversified financial
23 firm headquartered in Chicago, Illinois. Prior to becoming the
24 president of Jump Crypto, Mr. Kariya served as Jump Trading's
25 director of strategic initiatives, digital investments. He

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Lambert - Redirect

1 held that position from September 2020 until September 2021.

2 From July 2018 until September 2020, Mr. Kariya was
3 the quantitative researcher at Jump Trading. Prior to that,
4 Mr. Kariya was an undergraduate at the University of Illinois
5 at Urbana-Champaign, earning his bachelor of science in
6 computer engineering degree in June 2018.

7 Mr. Kariya's attorneys have advised the parties that
8 if Mr. Kariya were called to testify at trial, Mr. Kariya would
9 invoke his Fifth Amendment rights and decline to answer
10 questions posed by the parties about the claims asserted in
11 this case.

12 THE COURT: I'm sorry. Same situation. Go ahead.

13 MS. CUELLAR: Apologies, your Honor.

14 We then have two exhibits related to Mr. Kariya we've
15 not yet admitted.

16 THE COURT: Go ahead.

17 MS. CUELLAR: The first one, the parties stipulate
18 that Plaintiff's Exhibit 259B is a video communication between
19 Kanav Kariya and Do Kwon as reflected from the phone of Kanav
20 Kariya.

21 At this time, we move to admit, your Honor,
22 Plaintiff's Exhibit 259B and request permission to play it for
23 the jury.

24 THE COURT: Yes. I'm sorry.

25 MR. PELLEGRINO: Just one moment, your Honor. First

O42HSec2

Lambert - Redirect

1 of all, I think it's 258B.

2 MS. CUELLAR: Oh, apologies.

3 MR. PELLEGRINO: 258B. And secondly, that is subject
4 to a stipulation, and we would like the opportunity to explain
5 the stipulation to the Court but can do that later. We don't
6 have an objection, but would like the opportunity just to
7 explain it.

8 THE COURT: Sure. We'll take that up at the next
9 break.

10 MR. PELLEGRINO: Thank you, your Honor.

11 THE COURT: Received. And go ahead.

12 (Plaintiff's Exhibit 258B received in evidence)

13 (Audio played)

14 THE COURT: Yeah.

15 MR. PELLEGRINO: The volume should not be played, your
16 Honor.

17 THE COURT: The volume should not be played, and the
18 exhibit is 90 degrees off. So so far this has not been a
19 useful exercise.

20 MS. CUELLAR: Apologies, your Honor.

21 THE COURT: Yes. I don't know that — is there
22 something you particularly want to focus the jury's attention?
23 Because you're running through it, it doesn't — it is in
24 evidence, but, nevertheless, I don't see the point of running
25 through it.

O42HSec2

Mizrach - Direct

1 MS. CUELLAR: Yes, your Honor. We can pause it at
2 this time.

3 We'd move to admit 258A, which we understand there's
4 no objection to. It's a screenshot of the video, and that is
5 what we'd like to focus on.

6 THE COURT: Received.

7 (Plaintiff's Exhibit 258A received in evidence)

8 MS. CUELLAR: Thank you, your Honor.

9 If you could please display for the jury, Mr. Haywood,
10 258A. Thank you, your Honor.

11 THE COURT: Call your next witness.

12 MR. CARNEY: Thank you, your Honor.

13 THE DEPUTY CLERK: Please take the witness stand.

14 BRUCE MIZRACH,

15 called as a witness by the Plaintiff,

16 having been duly sworn, testified as follows:

17 THE COURT: Counsel.

18 MR. CARNEY: Thank you, your Honor.

19 Before I proceed, once again, this witness has a set
20 of demonstratives that we provided to the other side that we'd
21 like to display to the jury.

22 THE COURT: Yes.

23 MR. CARNEY: Thank you.

24 DIRECT EXAMINATION

25 BY MR. CARNEY:

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Mizrach - Direct

1 Q. Professor Mizrach —

2 THE COURT: I want to remind the jury these
3 demonstratives are not themselves evidence. These are just
4 aids to following his testimony.

5 Go ahead.

6 MR. CARNEY: Thank you, your Honor.

7 Q. Good morning, Mr. Mizrach.

8 What is your current position?

9 A. I'm a tenured full professor of economics at Rutgers
10 University.

11 Q. Can you maybe pull the microphone a little bit closer to
12 you.

13 A. I'm sorry. Tenured full professor of economics at Rutgers
14 University.

15 Q. Which Rutgers campus do you teach?

16 A. In New Brunswick, New Jersey.

17 Q. How long have you had this position?

18 A. I arrived at Rutgers in 1995 and have been there since.

19 Q. Have you taught at other universities?

20 A. I have.

21 Q. Which ones?

22 A. I've taught at Boston College. I've taught at the Wharton
23 School of the University of Pennsylvania. I've taught at
24 Rutgers as well. That would be my third academic posting. Oh,
25 and sorry, I was also at the Stern School of Business here in

042HSec2

Mizrach - Direct

1 New York.

2 Q. What university is the Stern School of Business affiliated
3 with?

4 A. It's the business school at New York University.

5 Q. And, professor, where did you attend college?

6 A. I went to Tufts University.

7 Q. And did you earn a degree there?

8 A. I did. I got a bachelor's degree in history and economics.

9 Q. Did you receive any honors in college?

10 A. I did. My degree was awarded summa cum laude, and I was
11 also elected to an honor society called Phi Beta Kappa.

12 Q. After college did you attend graduate school?

13 A. I did.

14 Q. Where did you attend graduate school?

15 A. The University of Pennsylvania.

16 Q. And did you obtain a degree from the University of
17 Pennsylvania?

18 A. Yes. I got my Ph.D. in economics in 1987.

19 Q. All right. Dr. Mizrach, I'd like to walk you through your
20 career starting from the time you earned your Ph.D. at the
21 University of Pennsylvania until you arrived at Rutgers in
22 1995.

23 Where were you first employed after receiving your
24 Ph.D.?

25 A. I was first employed at Boston College.

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Mizrach - Direct

1 Q. And what was your position there?

2 A. I was an assistant professor of economics.

3 Q. And what years were you at Boston College, professor?

4 A. 1987 to 1990.

5 Q. What'd you teach at Boston College?

6 A. I taught graduate and undergraduate classes in
7 macroeconomics.

8 Q. After Boston College, where did you go?

9 A. Then I went — came to the Wharton School at the University
10 of Pennsylvania.

11 Q. What was your position at Wharton?

12 A. I was a visiting assistant professor.

13 Q. And what years were you at Wharton?

14 A. 1990 to 1992.

15 Q. And what did you teach there?

16 A. Financial economics.

17 Q. And where were you employed next?

18 A. My next job was at the Federal Reserve Bank here in
19 New York.

20 Q. And what was your position at the Federal Reserve Bank?

21 A. I was an economist and then later a senior economist.

22 Q. And so what years were you at the Federal Reserve Bank of
23 New York?

24 A. 1990 to 1992.

25 Q. Was that '92 to '94?

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Mizrach - Direct

1 A. Yes, I'm sorry. I — yes, 1992 to 1994 was the last job I
2 had before I joined Rutgers.

3 Q. Did you join Rutgers after leaving the Federal Reserve
4 Bank?

5 A. I did.

6 Q. And what year was that?

7 A. 1995.

8 Q. And what are some of the classes that you teach at Rutgers?

9 A. At Rutgers I've taught graduate and undergraduate classes
10 in macroeconomics and financial economics, and I also taught
11 graduate classes in time series analysis.

12 Q. All right. I'd like to shift now and talk a little bit
13 about the type of work that you do as a professor.

14 Do you specialize in anything?

15 A. Yes, I specialize in financial economics.

16 Q. Is there a particular subspecialty in the field of
17 financial economics that you specialize in?

18 A. Yes. I work in an area called market microstructure.

19 Q. And can you tell us what you mean when you say you work in
20 the field called market microstructure?

21 A. Market microstructure is the field within financial
22 economics where you study the trading mechanisms, how financial
23 instruments are exchanged, and the trading platforms on which
24 they can be bought and sold.

25 Q. And what are some of the instruments that you study?

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Mizrach - Direct

1 A. I've studied stocks. I've studied bonds, both treasury
2 bonds and corporate bonds. I've studied the energy markets and
3 carbon markets and also the crypto markets as well.

4 Q. A little while ago in your answer you mentioned markets and
5 platforms. What are some of the markets and platforms that
6 these instruments you study are traded?

7 A. For example, stocks are traded on stock exchanges like the
8 New York Stock Exchange here in Manhattan. Most bonds are
9 traded on an electronic platform called BrokerTec, which I've
10 written a paper about. And there still are assets being traded
11 in — on trading floors where people are shouting and yelling
12 at one another trying to determine what the price is.

13 Q. OK. So you've just described that you studied trading of
14 these financial instruments on different platforms. Is there
15 an area of focus within that study?

16 A. Yes. I think the primary thing that's of concern to people
17 who study market microstructure are the costs associated with
18 trading, and one of the costs that people tend not to think
19 about is what's known as the price impact, understanding how
20 trading might actually raise the price or lower the price of
21 the asset that you're trying to buy or sell.

22 Q. OK. Can you just give us a brief description of what you
23 mean by cost arising from price impact.

24 A. Well, if one of us was to try to purchase a small amount of
25 stock on — a broker, we were buying ten shares, that likely

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Mizrach - Direct

1 wouldn't have a very big effect on the price. In fact, I'd be
2 confident in saying it wouldn't move the price at all. But it
3 might be very different if you wanted to buy 100,000 shares or
4 a million shares as large and institutional trading firms do,
5 and those firms have to account for the fact that their own
6 trading activity might be moving the price away from where they
7 would like to acquire the shares.

8 Q. OK. And we're going to get into the specifics of what
9 you've done in this case, but as a general matter, did your
10 work in this case involve determining the price impact from
11 trading?

12 A. Yes, it did.

13 Q. Besides price impact, do you focus on any other transaction
14 costs associated with trading?

15 A. Yes, there are transaction costs in almost every step of
16 financial transactions. People still sometimes pay brokerage
17 commissions. People also pay something called the bid-ask
18 spread, which is the difference in the buy and sell prices.
19 And there often are fees just simply to utilize a particular
20 platform.

21 Q. And what tools do you use as an economist to determine the
22 price impact associated with trading financial instruments?

23 A. I've commonly used a standard tool within the market
24 microstructure literature called a vector autoregression, and
25 there's a tool that accompanies the vector autoregression

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Mizrach - Direct

1 that's called an impulse response function. And I utilize
2 those tools in the study of all the markets that I've talked
3 about to assess what price impact might be.

4 Q. And did you use those tools to conduct your analyses in
5 this matter?

6 A. I did.

7 Q. All right. Professor, have you published any articles in
8 the field of market microstructure?

9 A. I have.

10 Q. And are you familiar with the professional and academic
11 literature in the field of market microstructure?

12 A. I am.

13 Q. Focusing on the articles that you've published, what
14 markets have your articles analyzed?

15 A. I've published analyses of the stock market, the treasury
16 bond market, the corporate bond market, energy markets, carbon
17 markets, and also recently the crypto markets.

18 Q. And how many publications have you written?

19 A. Approximately 70.

20 Q. Have your articles been what's known as peer reviewed?

21 A. Almost all of them. Around 90 percent.

22 Q. Can you describe for us what it means for an article to be
23 peer reviewed?

24 A. Yes. It's a difficult process in which a professor sends
25 out an article to a journal. The journal assigns referees who

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Mizrach - Direct

1 are peers, people that are also experts in the literature, and
2 they provide sometimes very detailed comments or suggestions
3 for improvement. And before your paper can be published in one
4 of these peer-reviewed journals, it has to first get past all
5 the referees and the editor of the journal as well. So it's a
6 lengthy process.

7 Q. Have you published any papers related to crypto assets?

8 A. I have.

9 Q. Can you just very briefly describe those papers.

10 A. Yes. I've published two papers. One is a paper looking at
11 the effect of trading in Bitcoin and Ether, two crypto assets
12 on centralized exchange platforms, and then I've also recently
13 published a paper on the Ethereum blockchain. And Ethereum
14 went through a major transition in 2022 in which the validation
15 method for transactions was changed. It changed to a new
16 method that made it much easier and much cheaper.

17 Q. And did either of those two crypto asset papers you just
18 mentioned, did either of them use the vector autoregression or
19 the impulse response function tools that you just mentioned a
20 little while ago?

21 A. Yes. The first paper that looks at Bitcoin and Ether
22 trading on the centralized exchanges use — uses exactly the
23 same tools that I've used to — for analysis in this case.

24 Q. Do you have any papers related to crypto assets that you're
25 working on that are not yet published?

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Mizrach - Direct

1 A. Yes, I have a paper that looks at all of the stablecoins
2 that resided on this Ethereum network that I've talked about,
3 and there are more than 60 of them. And I study the
4 survivorship, how many of them are likely to remain trading,
5 study their transactions costs and also study their trading on
6 centralized exchanges.

7 Q. And did your work in this matter involve stablecoins?

8 A. It did.

9 Q. And we'll get into it a little bit deeper later, but can
10 you just briefly tell us what stablecoins are.

11 A. Stablecoins are crypto assets that are intended to remain
12 stable or pegged to a particular asset, most often the U.S.
13 dollar, but there are other kinds.

14 MR. CARNEY: Your Honor, I note the time. It's nearly
15 11:00, so if this would be an appropriate time, this would be a
16 good time for me as well. But, obviously, if it's a good time
17 for your Honor, then . . .

18 THE COURT: How much more do you have on direct?

19 MR. CARNEY: On, direct, I have quite a bit.

20 THE COURT: All right. We'll give the jury their
21 15-minute morning break.

22 MR. CARNEY: Thank you, your Honor.

23 (Jury excused)

24 (Continued on next page)

25

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Mizrach - Direct

1 (Jury not present)

2 THE COURT: All right. Please be seated. I'm going
3 to handle another matter downstairs, then since we're taking
4 the 15-minute break now. See you in 15 minutes.

5 (Recess)

6 THE COURT: Get the witness on the stand and bring in
7 the jury.

8 I mentioned to the jury electronic exhibits. My law
9 clerk says you guys actually have hard copies we can send to
10 the jury, and that's even better, so they don't have to
11 scrounge around. I'll correct that when we have a chance.

12 (Continued on next page)

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Mizrach - Direct

1 (Jury present)

2 THE COURT: Please be seated.

3 Go ahead, counsel.

4 MR. CARNEY: Thank you, your Honor.

5 BY MR. CARNEY:

6 Q. Professor, when we left off, we were going through your
7 background and qualifications. Have you traded financial
8 instruments personally in your own account?

9 A. I have.

10 Q. And did you publish a paper outlining strategies you'd used
11 in trading on your own account?

12 A. I did.

13 Q. Can you just briefly describe that paper.

14 A. That paper also used this tool that I mentioned before our
15 break called the vector autoregression, and it tried to predict
16 the next few ticks on NASDAQ stocks.

17 Q. Professor, once again, could you pull the microphone a
18 little closer.

19 A. Sorry.

20 Q. Have you done any consulting work for clients?

21 A. I have.

22 Q. And do you have a consulting firm?

23 A. Yes, it's called the Nonlinear Analysis Group.

24 Q. And what does the Nonlinear Analysis Group do?

25 A. It provides trading strategy development, both code and

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Mizrach - Direct

1 implementation, to a variety of different clients and trading
2 firms.

3 Q. And can you just briefly give us an example of some clients
4 that the firm represents or works with.

5 A. Yes. I've worked with Goldman Sachs here in New York, I've
6 also worked AllianceBernstein, and I also worked with a hedge
7 fund called Cypher Capital.

8 Q. Do you do any consulting for financial regulators?

9 A. I do.

10 Q. Can you briefly describe that.

11 A. Yes. I have from 2016 to 2020, I worked at the U.S.
12 Department of Treasury's Office of Financial Research. I've
13 worked — as a mentioned when I was talking about my work
14 experience, I've worked at the Federal Reserve Bank of New York
15 and continue to do consulting for them, as well as the Federal
16 Reserve Bank of St. Louis. And I also work with the financial
17 industry regulatory authority, an ongoing relationship since
18 2015.

19 Q. Have you ever served as an expert in a court case or other
20 type of litigation before?

21 A. Yes. This is my ninth case.

22 Q. And could you just please give us an example of a case
23 where you've served as an expert that's sort of relevant to the
24 work you're doing in this case.

25 A. Yes. I was retained as an expert in the 9/11 attacks which

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1 impacted Cantor Fitzgerald. They were the U.S. treasury
2 trading company that was on the upper floors of the Trade
3 Center, and their trading operations were, obviously,
4 interrupted by the attacks. And I was asked to look at trading
5 records and assess what the damage to their business had been.

6 Q. And so, professor, aside from the World Trade Center cases,
7 did any of the other matters in which you've served as an
8 expert involve analyzing trading records?

9 A. They did.

10 Q. How many of them?

11 A. All but two. So seven of the nine cases in total,
12 including this one, have involved looking at trading records.

13 Q. So besides the one you mentioned, what type of trading was
14 involved in those other cases?

15 A. So I think, in total, there were three matters that
16 involved the U.S. treasury market. So a case — another case
17 involving Cantor Fitzgerald, another involving Tullett Prebon.
18 I recently worked on a case for Brevan Howard, which is a hedge
19 fund based in the UK. There, I was analyzing commodity trading
20 records. I have also worked recently also on a stock trading
21 case with a hedge fund called Serenity Capital.

22 Q. All right. I'm going to shift topics now a little bit,
23 professor.

24 Do you work with blockchain data?

25 A. I do.

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Mizrach - Direct

1 Q. How often?

2 A. Daily.

3 Q. And can you briefly describe what a blockchain is.

4 A. A blockchain is a ledger, so a place where things are
5 recorded. But what makes blockchains a bit different than a
6 ledger that we might keep our own notes in, and so on, is that
7 it's a distributed ledger. And that means that that ledger
8 gets publicized across the platform, and all the participants
9 in that network are able to see all of the transactions and all
10 of the wallets once it's distributed.

11 Q. And what kind of instruments are traded on blockchains?

12 A. Crypto assets.

13 Q. Are stablecoins traded on blockchains?

14 A. Yes, they are.

15 Q. Have you studied the trading of crypto assets on
16 blockchains?

17 A. I have.

18 Q. Have you also studied the trading of crypto assets outside
19 of blockchains?

20 A. I have. I've looked at trading also on centralized
21 exchanges that are off of the blockchain.

22 Q. And could you just give us just a brief overview of the
23 work that you've done studying the trading of crypto assets on
24 blockchains and off of blockchains.

25 A. So on the blockchain, I've studied the costs and — and

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1 size of the networks, and so on, of people exchanging assets
2 directly, which they can do on the blockchain, and seeing the
3 size of those networks and how big they are. And then, in
4 turn, there's a far larger volume typically traded off — off
5 the blockchain on these centralized exchanges. And in my paper
6 with Saketh Aleti, we've looked at the trading on four
7 different centralized exchanges and also the Chicago Mercantile
8 Futures Exchange.

9 Q. What's an example of a centralized exchange?

10 A. A centralized exchange is KuCoin. KuCoin is one that's
11 important, I think, in this case.

12 Q. And how are able to obtain transaction information from the
13 blockchains and centralized exchanges?

14 A. These exchanges provide public data feeds to people that
15 might be interested in trading or analyzing the data.

16 Q. So are you collecting data yourself directly from
17 blockchains and centralized exchanges?

18 A. I do.

19 Q. And did you prepare a demonstrative that has a picture of
20 the setup you used to collect this data?

21 A. Yes, I did.

22 MR. CARNEY: Mr. Haywood, if we could please put up
23 Mizrach Demonstrative 1.

24 Q. And could you just quickly tell us what's shown here.

25 A. This is just a portion of my data center, and there's three

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Mizrach - Direct

1 computers depicted in this picture and then a number of towers
2 which contain hard drives. And these are connected 24/7 to the
3 Internet and stream the data from the centralized exchanges
4 that we've been talking about.

5 Q. And when did you initially set up this setup you've got
6 here?

7 A. The first part of the data center was funded by a grant
8 from the Office of National Intelligence, which had been
9 looking at stock market trading in the U.S., and — but we've
10 continued to build it over the years. And this is, again, as I
11 mentioned, only a portion of the data center.

12 MR. CARNEY: And we could take that down. Thank you.

13 Q. Professor, through your education and training that you've
14 described, have you gained experience in analyzing trading
15 data?

16 A. Yes, I have.

17 Q. And approximately how many years of experience would you
18 say you have analyzing trading data?

19 A. I started in 1997 when I was doing the work to start my own
20 trading strategy.

21 Q. How many years of experience do you have analyzing crypto
22 trading data?

23 A. I've been working almost exclusively on crypto for the last
24 five years.

25 Q. Are you familiar with the concept of a liquidity provider?

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Mizrach - Direct

1 A. I am.

2 Q. And can you just briefly describe what a liquidity provider
3 is.

4 A. A liquidity provider is a market participant on one of the
5 platforms that's typically willing to both buy and sell the
6 asset at different prices.

7 Q. And do you have experience analyzing trading by liquidity
8 providers?

9 A. Yes, it's a central question in my market microstructure.
10 You need to know where the liquidity in the market is being
11 provided.

12 Q. Professor Mizrach, were you hired by the SEC to serve as an
13 expert witness in this case?

14 A. I was.

15 Q. And approximately when were you retained by the SEC, hired
16 by the SEC?

17 A. September of 2022.

18 Q. And how much is the SEC paying you in this matter?

19 A. I'm paid \$750 an hour for my analytical work, and right
20 now, as I'm testifying or in my deposition, I was paid a
21 thousand dollars an hour.

22 Q. And does the amount you were paid depend at all on the
23 outcome of this case?

24 A. No.

25 Q. And what type of expertise, generally, what field, were you

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Mizrach - Direct

1 asked to provide in this case?

2 A. I was asked to provide a market microstructure analysis of
3 the Terra blockchain and the role that Jump had played in it.

4 Q. OK. And so what specifically did the SEC ask you to
5 analyze with respect to trading of crypto assets in this case?

6 A. I was asked to assess what role Jump and its affiliates
7 played in restoring the peg of UST to one U.S. dollar in May of
8 2021.

9 Q. And what is UST? Can you remind us.

10 A. UST is the stablecoin that's on the Terra blockchain, and
11 it was meant to be pegged to one U.S. dollar.

12 Q. And so to put some sort of context around the question that
13 the SEC asked you, can you please tell us what happened with
14 respect to the value of UST in May of 2021.

15 A. Beginning around May 19, 2021, UST began to fall well below
16 the value of \$1, and it was eventually restored by the end of
17 the month. And the question for me was to determine had Jump
18 played a role in restoring that peg?

19 Q. And so when analyzing Jump's trading in May 2021, what did
20 you focus on?

21 A. I focused on their trading on centralized exchanges where
22 they had made large purchases of UST.

23 Q. And what conclusion did you reach?

24 A. My conclusion is that had it not been for Jump's trading,
25 that the peg would not have been restored, and that UST's price

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1 would have come very close to zero.

2 Q. All right. Before we get into the sort of meat of your
3 analysis, let's — I think you have some background information
4 you want to provide.

5 Did you prepare a demonstrative showing different
6 types of trading platforms?

7 A. I did.

8 Q. And can we please look at Mizrach Demonstrative Exhibit 2.

9 Professor, could you just briefly describe for us what
10 is shown on Demonstrative Exhibit 2.

11 A. It just illustrates, I think, the way in which or different
12 venues in which different types of financial instruments can be
13 traded. So stocks like Procter & Gamble or Apple can trade on
14 the New York Stock Exchange here in New York or the NASDAQ
15 stock exchange as well. It also reminds us that crypto assets,
16 like Bitcoin or Ethereum, can be exchanged directly on those
17 blockchains. But, importantly, as we move to the right of the
18 lower part of that exhibit, we see that there's important
19 off-blockchain activity that goes on on centralized exchanges
20 like KuCoin.

21 Q. And do you see study the price impact from trading in these
22 markets?

23 A. I do.

24 Q. Professor, are you familiar with the concept of a limit
25 order book?

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1 A. I am.

2 Q. And what is a limit order book?

3 A. A limit order book represents a trader's desire to sell,
4 and it's a specification both of the price that they're willing
5 to sell at and also the quantity that they would like to buy or
6 sell. It's on both sides, buying and selling.

7 Q. And do you use limit order books to analyze price impact?

8 A. I do.

9 Q. All right. So, obviously, within this term limit order
10 book is the words "limit order." Can you explain to us what a
11 limit order is.

12 A. Well, the limit reflects the two parts of the order.
13 First, there is a price limit. You're only willing to buy or
14 sell at this price. And then there's a quantity limit saying,
15 well, I'm not willing to sell you or buy an unlimited amount.
16 I only want to buy this amount. So the limit refers both to
17 the price and the quantity.

18 Q. And, professor, did you prepare a demonstrative showing
19 what a limit order book looks like?

20 A. I did.

21 MR. CARNEY: Could we please put up Demonstrative
22 Exhibit 3.

23 Q. I think this demonstrative you prepared is one that is
24 animated. So if you can just walk us through your
25 demonstrative and indicate when you'd like to move on.

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1 A. OK. I will do that.

2 So we first started with just one half or one side of
3 the limit order book, and there are two sellers here, one at a
4 price of 99 cents wants to sell a quantity of 100 units. I'll
5 say shares. I think that that's fine. And then there's a
6 Seller 2 who wants to sell at a slightly higher price of \$1 and
7 also 100 units.

8 I think now we can bring in the other side of the
9 limit order book, please.

10 So we now have in green the bid side. These are the
11 offers to buy the stock. So we see a price of 95 cents for
12 Buyer 1 who wants to buy 100, and then we also see a price of
13 .94, a little bit below Buyer 1, also for 100 units or 100
14 shares.

15 Now, the key thing I think to first understand is that
16 trades do not automatically occur. Trades occur when there is
17 a matching in the limit order book. Right now this particular
18 book does not have any matches. The best bid is at 95 cents.
19 The best offer is at 99 cents, and there is no matching of
20 those orders. So this order book would stay with no matched
21 orders as the demonstrative indicates.

22 I think we can go ahead one more, please.

23 So another thing that's going to be important when I
24 talk about my vector autoregression is this notion of the
25 mid-quote. And like a lot of other financial terminology, it's

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1 really just masking what's a simple concept. So in our sample
2 limit order book in this demonstrative, Buyer 1 is at 95 cents,
3 Seller 1 is at 99 cents, and the mid-quote is the midpoint
4 between those. We just take 95 cents and 99 cents, divide by
5 two, and the mid-quote in this example order book at 9:15 is
6 97 cents. I'll just say that's going to be one of the inputs
7 in my statistical analysis of Jump's trading.

8 Q. Are you ready to move on to the next?

9 A. I am. I'm ready to move on. I think it might be a good
10 idea to actually see a trade, and so this step of the
11 demonstrative shows new buyers and sellers arrive. Seller 3
12 arrives willing to sell at 97 cents and a quantity of 100, and
13 there's a corresponding Buyer 3 at 97 cents who wants to buy
14 exactly the same quantity. And this order book will then
15 generate its first trade. Buyer 3 and Seller 3 will match, and
16 we'll see a trade recorded in that exchange at the 97 cents
17 where their buy and sell orders meet.

18 I think we can go on now.

19 So now we introduce an additional seller into the
20 book. And just note that the 97 cents that was at the bid
21 side, the green side, and the 97 cents that was at the red side
22 has now erased, been erased from the limit order book. They're
23 satisfied, hey, I got a good trade, and they've now vanished
24 from the limit order book.

25 This next step here at 9:45 then brings in a new buyer

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1 and seller with matching trade intentions. But what's
2 important here is that Seller 4 wants to sell a bit more than
3 Buyer 1 wants to buy. So Buyer 1 only wants 100 shares.
4 Seller 4 wants to sell 200. So we're going to see a partial
5 execution here. So Seller 4 will be able to sell 100 of their
6 shares to Buyer 1, and notice then Buyer 1 gets zeroed out. So
7 his quantity no now goes to zero because his has been
8 satisfied, but the seller remains, Seller 4 remains, at the top
9 of the right-hand side of the book because he or she still has
10 100 more shares that they want to.

11 Sell. So we can now advance and take Buyer 1 out of
12 the limit order book, but notice that Seller 4 is still there.
13 Seller 4 still has the hundred that they want to sell, and so
14 we're now going to recalculate the mid-quote. Just like we did
15 when we had it at 95 by 99 cents, the mid-quote here is now the
16 midpoint between .94 and .95, and that's .945 once we divide
17 both that sum by two.

18 We also have from this something that is a pretty hard
19 concept, I think, to understand, which is, well, what is a
20 price impact? Well, we have an initial estimate of price
21 impact right here in this limit order book. The decision by
22 Seller 4 to sell the hundred units has lowered the mid-quote.
23 It was previously at 97 cents; it's now at 94.5 cents. So we
24 have a 2 1/2 cent market impact by the decision by Seller 4 to
25 arrive at those 200 shares.

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1 Q. And, professor, a little while ago you mentioned that, as I
2 understood it, a liquidity provider both buys and sells a
3 particular financial instrument in question. Did I get that
4 right?

5 A. That's correct, they're on both sides of the market.

6 Q. OK. So could a liquidity provider have an impact on price?

7 A. Yes, they could.

8 Q. How so?

9 A. So we're back now at 9:45 again. We went back one slide
10 just for a brief moment. Let's just contemplate a situation in
11 which Buyer 1 doesn't want to buy just 100 but, in fact, wants
12 to buy 300, OK? So Buyer 3 — Buyer 1 has a larger amount that
13 they're willing to purchase. Seller 4 now arrives with their
14 200 shares. They sell all 200 to Buyer 1, but notice, after
15 that happens, Seller 4 now vanishes from the limit order book.
16 His trade is fulfilled, his order is filled. And Buyer 1 is
17 now remaining back at the top of the limit order book with an
18 additional hundred shares at 95 cents.

19 So where is the mid-quote in this situation where
20 Buyer 1 was willing to be a larger liquidity supplier? The
21 mid-quote remains exactly where it started at the beginning,
22 and now the price impact of Seller 4's trade is zero.

23 Q. Thank you. We're going to shift topics for a second.

24 So you talked earlier that crypto assets are traded on
25 different platforms, is that right?

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1 A. That's correct.

2 Q. And did you prepare a demonstrative showing the different
3 platforms where crypto assets can be traded?

4 A. I did.

5 MR. CARNEY: And could we, Mr. Haywood, please put up
6 Mizrach Demonstrative 4.

7 Q. And can you just walk us through what's shown on this
8 demonstrative, please, professor.

9 A. On the left-hand side, we're looking at direct exchange on
10 the blockchain, and this could be any. It could be Terra or
11 Ethereum or Bitcoin. And traders, people on these blockchains,
12 have wallets, and they're just electronic versions of the
13 wallets that we carry. And if Trader A, for example, makes his
14 wallet known to Trader B, they can exchange assets back and
15 forth directly with one another on the blockchain.

16 On the right-hand side, though, we consider the
17 activity, then, that happens once these assets are migrated off
18 of the blockchain to centralized exchanges, again, something
19 like KuCoin. And off the blockchain, then, Trader A and Trader
20 B meet through their trade intentions like we saw in the limit
21 order book, and then there is a software on the centralized
22 exchange, on the platform where orders are presented, and then
23 that software is going to match orders in the way that we just
24 saw in the previous limit order book. But, importantly, it's
25 not on the blockchain, it's off.

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1 Q. OK. And you've mentioned a couple of times KuCoin as an
2 example, but, just generally, these centralized exchanges,
3 who's operating them? Are they companies? Are they something
4 else?

5 A. They're private companies, generally looking for profit by
6 providing trading services.

7 MR. CARNEY: All right. We can take this one down, I
8 think. Thank you.

9 Q. We talked about this briefly before, but just to sort of
10 situate ourselves again, can you remind us, just real quickly,
11 what is a stablecoin?

12 A. A stablecoin's a crypto asset that tries to maintain a
13 stable value against another asset, typically the dollar, U.S.
14 dollar.

15 Q. Are there different types of stablecoins?

16 A. There are.

17 Q. What are the different types of stablecoins?

18 A. Well, some stablecoins are backed directly by assets,
19 typically liquid assets like U.S. treasuries or even bank
20 deposits, but then there are other stablecoins like UST that
21 are stabilized through computer code or an algorithm. And
22 those two — those are the two major types of stablecoins.

23 Q. So just to be clear, what type of stablecoin is UST
24 considered?

25 A. UST is an algorithmically stabilized stablecoin that

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1 utilizes a swap mechanism on the blockchain.

2 Q. Are you, professor, familiar with the Terraform blockchain?

3 A. I am.

4 Q. Did you analyze the Terraform blockchain in this matter?

5 A. I did.

6 Q. Were certain tokens created by Terraform Labs on the Terra
7 blockchain?

8 A. Yes.

9 Q. And can you tell us the tokens that Terraform created on
10 the Terra blockchain that you analyzed in this matter?

11 A. I studied the stablecoin UST and then I also studied
12 another token called Luna.

13 Q. Could Luna and UST tokens be purchased and sold on the
14 Terra blockchain?

15 A. Yes, they could.

16 Q. How?

17 A. Well, there was the possibility for direct transfer to
18 people who could exchange assets directly, right on the
19 blockchain, and then there was also a swap mechanism where they
20 could exchange UST and Luna.

21 Q. So besides these on-chain transfers and purchases that you
22 talked about, where else could Luna and UST be purchased and
23 sold?

24 A. They could be purchased on these centralized exchanges off
25 of the blockchain.

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1 Q. And you've mentioned it a few times, but are you familiar
2 with the swap mechanism on the Terraform blockchain?

3 A. I am.

4 Q. And did Terraform ever publish anything describing the
5 details of how this swap algorithm was supposed to work?

6 A. Yes. Do Kwon and other employees at Terraform published a
7 white paper that described the way in which they envisioned
8 that the swap mechanism would function.

9 Q. Is that paper something that you reviewed in connection
10 with your work here?

11 A. I did.

12 Q. Professor, did you prepare a demonstrative showing how the
13 swap mechanism was supposed to work if UST were not pegged at
14 \$1?

15 A. I did.

16 MR. CARNEY: Could we please pull up Mizrach
17 Demonstrative Exhibit 5A.

18 Q. And, professor, could you just walk us through your
19 demonstrative.

20 A. Yes. The swap mechanism functioned and hoped to stabilize
21 UST by providing the promise that you could always take one UST
22 and transfer it through the swap mechanism for \$1 worth of
23 Luna. So the demonstrative, the exhibit, now contemplates what
24 would have happened if UST had started to move below its peg,
25 move down to 98 cents instead of a dollar. Well, at least

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1 theoretically this might create a profitable trading
2 opportunity. Some person or firm could purchase a UST on one
3 of the centralized exchanges like KuCoin at a discount to \$1,
4 and then they would have to take the UST purchased on the
5 centralized exchange and then migrate it back onto the
6 blockchain. And this is just the first step in a three-step
7 arbitrage.

8 Q. And can we go to the second step.

9 A. So in the second step, the UST that was purchased on the
10 centralized exchange is returned back to the Terra blockchain,
11 and then the — this trader could place the UST into the Terra
12 blockchain and get what was promised at the top, which was they
13 were promised then to receive \$1 worth of Luna in return.

14 Now, importantly, what would happen in this step is
15 that the UST would be burned, it would be destroyed, literally
16 erased from the blockchain, and \$1 worth of Luna tokens would
17 be minted.

18 Q. What happens in step three?

19 A. Well, step three of this multistep arbitrage is to take
20 your dollar's worth of Luna that you got from the swap
21 mechanism — and understand, Luna's a volatile asset. It's
22 worth \$1 right now, but it might not be worth \$1 in a few
23 minutes or a few hours. So to complete this arbitrage, get
24 your profit, you have to migrate the Luna asset back off the
25 blockchain to a centralized exchange. It could be KuCoin or it

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1 could another. You didn't have to do it at the same exchange.
2 There was no obligation. And then finally you would get, at
3 least theoretically, one U.S. dollar for the 98 cents that you
4 originally purchased at.

5 Q. This example you just walked us through is if UST were
6 trading below a dollar, is that right?

7 A. That's correct.

8 Q. Could something similar occur if UST was trading above a
9 dollar?

10 A. Yes. It would involve taking all the steps in reverse
11 where you'd begin with a Luna purchase and then try to get some
12 discounted UST.

13 Q. And the answer — when you're walking through your
14 demonstrative here, you mentioned a few times the word
15 "arbitrage." Could you just at a high level explain to us what
16 arbitrage means.

17 A. An arbitrage is a sequence of trades like this exhibit
18 depicts in which you can quickly transform a riskless asset,
19 like a U.S. dollar, into a greater stake. So this three-step
20 arbitrage transforms very quickly, at least theoretically,
21 98 cents into \$1, and that's what we call in economics an
22 arbitrage, a riskless short-term profit.

23 Q. Is the swap mechanism that you walked us through in your
24 demonstrative an example of arbitrage?

25 A. It is.

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1 Q. Professor, was the swap mechanism supposed to help UST stay
2 pegged to a dollar?

3 A. It was.

4 Q. And how was that supposed to work?

5 A. Well, the primary mechanism to support UST relates to the
6 minting and burning that's going on within the swap mechanism.
7 So the hope was that if you brought some UST into the swap
8 mechanism and you reduced the supply, by reducing the supply,
9 hopefully, this would help to increase or raise the price of
10 UST.

11 Q. Were there fees associated with using the Terra swap
12 mechanism?

13 A. Yes, there were.

14 Q. And just generally speaking, normal circumstances, how much
15 were the fees?

16 A. The fees were typically a half a percent.

17 Q. Did those fees change?

18 A. They did. The fees by design would rise when this market
19 swap module would get more congested. It's very similar to the
20 congestion pricing that has been proposed to try to keep more
21 cars out of Manhattan. So busy times of the day, we're going
22 to make it expensive for cars to come into Manhattan, both in
23 New Jersey and even in — it's even within Manhattan they're
24 going to charge you to come into Lower Manhattan, and the same
25 thing was true then of the swap mechanism. If people were

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1 starting to try to bring a lot of UST to burn or vice versa,
2 the fees for using the swap mechanism would go up and would
3 interfere with this arbitrage.

4 Q. And that structure you just outlined, was that built into
5 the swap mechanism by Terraform?

6 A. Yes, it was a feature. It was meant to discourage people
7 from trying to manipulate prices off the blockchain, off and on
8 the blockchain.

9 Q. And does this example of the swap mechanism that you've
10 shown us here take into account swap fees?

11 A. This first arbitrage in this exhibit does not contain any
12 swap fees.

13 Q. So could your swap mechanism example shown in this
14 demonstrative be unprofitable if fees were taken into account?

15 A. Yes, fees could make the arbitrage trade unprofitable.

16 Q. And did you, professor, prepare a demonstrative that took
17 into account swap fees within the swap mechanism?

18 A. I did.

19 MR. CARNEY: All right. If we could please put up
20 Mizrach Demonstrative Exhibit 5B.

21 Q. It looks similar to the one you just showed us, so you
22 don't have to walk us through the whole example. But can you
23 explain how the swap mechanism could be unprofitable.

24 A. Yes. I think we can just focus on step two in the diagram.

25 So remember previously when there were no fees, you

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1 brought your UST and you got \$1 worth of Luna, but if we had a
2 swap fee of 3 percent, you don't get \$1 worth of Luna, you only
3 get 97 cents. If you then complete the arbitrage, your profit
4 of 2 cents in the previous case where there were no fees has
5 now vanished, and, in fact, you've just paid a transaction cost
6 that has not made the arbitrage profitable.

7 Q. And are there other fees that are not captured in your
8 demonstrative here?

9 A. Yes, there are.

10 Q. What are those types of fees?

11 A. Well, in trading of financial instruments, there are fees
12 at almost every step, and that's true even in this arbitrage.
13 You would pay a fee to participate on the centralized exchange.
14 So there would be transaction fees associated with that. You
15 would then pay a fee to transfer your assets off of the
16 centralized exchange back onto the blockchain. And notice
17 again everything that you did in step one you have to redo in
18 step three. You have to remigrate your asset off of the
19 blockchain back to the centralized exchange, pay those fees,
20 and then finally pay a centralized exchange fee again in the
21 end before you can realize your profit.

22 Q. And, professor, in order to know if the swap mechanism
23 arbitrage was profitable, would one have to account for all
24 those fees you just described?

25 A. Yes.

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1 Q. I think earlier you testified that the swap mechanism was
2 supposed to help UST stay pegged to a dollar, is that right?

3 A. That's correct.

4 Q. And so you just walked us through an example of the swap
5 mechanism being unprofitable because of fees.

6 If the swap mechanism was unprofitable, like it was in
7 your example, as an economist, do you think it would provide
8 the necessary economic incentive for people to use the swap
9 mechanism to help restore the UST peg to a dollar?

10 A. The idea was that you could support UST by bringing it to
11 the swap mechanism and then burning it, but people are not
12 going to be incentivized, they're not going to see a profit, in
13 bringing UST to the swap mechanism if they know that it's a
14 losing trade.

15 MR. CARNEY: OK. We could take this demonstrative
16 down. Thank you, sir.

17 Q. Professor, are you familiar with the Anchor protocol?

18 A. I am.

19 Q. Just at a high level, what is the Anchor protocol?

20 A. It was a Terra blockchain deposit program which enabled
21 holders of USTs to earn interest rates of approximately
22 20 percent.

23 Q. Are you aware of how much UST was deposited into the Anchor
24 protocol from March to May 2021, just yes or no?

25 A. I am, yes.

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1 Q. OK. And how are you aware?

2 A. I analyzed those transfers on the Terra blockchain.

3 Q. And so, based on your analysis, how much UST was deposited
4 into the Anchor protocol from March to May of 2021?

5 A. By May of 2021, approximately 300 million UST had been
6 deposited in Anchor.

7 MR. CARNEY: If we could please display Mizrach
8 Demonstrative 6.

9 Q. Professor, is this a chart that you prepared?

10 A. It is.

11 Q. Can you just describe for us what you're showing in your
12 chart.

13 A. I am — I am showing the deposits between March 17 and
14 May 18, 2021, into the Anchor protocol.

15 Q. And what happened with respect to those deposits?

16 A. The Anchor protocol was very popular, and people began to,
17 in a short period of time, rapidly deposit a lot of UST into
18 the protocol.

19 MR. CARNEY: And we could take that down. Thank you.

20 Q. Professor, you mentioned earlier that you were asked by the
21 SEC to determine whether Jump played any role in restoring the
22 UST peg to \$1. What is Jump or Jump Trading LLC?

23 A. Jump is a proprietary trading firm, and that's just a way
24 of saying that they were risking their own capital to try to
25 make a profit.

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1 Q. Did Jump Trading buy UST during the time period that was
2 the subject of the opinions, of your opinions, in this matter?

3 A. They did.

4 Q. As part of your work in this case, did you look at Jump's
5 incentives to restore the UST peg to \$1?

6 A. I did.

7 Q. And what information did you consider in determining Jump's
8 incentives?

9 A. I studied agreements between Jump and Terraform to receive
10 Luna tokens.

11 Q. All right. Professor, I'm going to show you what's been
12 already admitted in evidence as Plaintiff's Exhibit 60.

13 Are you familiar with this document, professor?

14 A. I am.

15 Q. And what is this document?

16 A. This document is an agreement between Terra and Jump to
17 receive up to 65 million Luna tokens, and the purchase price
18 for those Luna was 40 cents. And in return, Jump was expected
19 to meet certain liquidity conditions with regard to trading and
20 creation of Terra stablecoins.

21 Q. And do you know when Jump began receiving Luna under the
22 second agreement, yes or no?

23 A. I do.

24 Q. And how do you know that?

25 A. I can see the transfers on the Terra blockchain, and

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1 there's also emails between Jump and Terraform that confirm the
2 arrival of the tokens from this agreement.

3 Q. And do you know if this agreement was the first agreement
4 between Jump and Terraform, or was it a subsequent agreement?

5 A. It was — it was the second agreement between those two
6 parties.

7 Q. When did Jump begin receiving Luna that it was entitled to
8 acquire under this second agreement?

9 A. I believe in January of 2021.

10 Q. And do you know how much it received?

11 A. By April of 2021, so between January and April of 2021,
12 they had received approximately 3.5 million of the 65 million.

13 Q. I'm going to show you what's been marked as Mizrach
14 Demonstrative Exhibit 7.

15 If we could please pull that up.

16 What are you showing here on this chart, professor?

17 A. So this chart shows, first, the price of Luna tokens in
18 U.S. dollars covering the period from September 1, 2020, to
19 May 19, 2021.

20 It also shows in the brown line just to depict the
21 event, the launch of the Anchor protocol, and it shows how the
22 Luna price was rising quite substantially leading into the
23 launch of Anchor in March — on March 17.

24 And then, finally, the bottom line is just something
25 to remember that we saw in the contract that was just

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1 displayed, which was Jump was allowed to acquire the Luna at
2 40 cents. And as you can see, well after — anytime basically
3 after March of 2021, the 40-cent purchase price was at a
4 substantial discount to the market price of Luna.

5 (Continued on next page)

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1 BY MR. CARNEY:

2 Q. Okay. And I just want to back up one second, Professor. I
3 think you said this when you were describing the -- you gave us
4 an overview of Jump's agreement to acquire Luna, but just so
5 the record is clear, were there any conditions that Jump had to
6 meet to receive the Luna under that agreement?

7 A. Yes, there were conditions that required Jump to trade and
8 create a certain number of Luna token -- of Terraform tokens.

9 Q. So what was the approximate price of Luna on May 19, 2021?

10 A. Approximately 15 U.S. dollars.

11 Q. And as of May 19, 2021, had Jump received any additional
12 Luna under the second agreement besides the 3.5 million that
13 you mentioned?

14 A. No, they still had approximately 60 million additional
15 tokens that were to be delivered.

16 Q. And can you remind us at what price they were entitled to
17 acquire those at?

18 A. Yes, the 40 cent red line, which is indicated as a strike
19 price. That just means a price at which they were allowed to
20 acquire the tokens.

21 Q. So if I understand you correctly, the red line is the price
22 at which Jump could acquire the Luna?

23 A. Correct.

24 Q. And the blue line is the price at which Luna was actually
25 selling for at that time in the market?

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1 A. Correct.

2 Q. All right. We can take this down, please.

3 Professor, I want to turn your attention to the events
4 that happened in May 2021. Can you please just give us an
5 overview of what happened with respect to UST's value in May of
6 2021?

7 A. Beginning around May 19th, the value of UST began to fall
8 well below \$1.

9 Q. And so what if anything happened to the price of Luna after
10 UST began to fall off the dollar?

11 A. Luna prices were also falling.

12 Q. And, again, I don't want to be repetitive, but did you say
13 earlier that the swap algorithm was supposed to help restore
14 the value of UST to a dollar?

15 A. Yes, that's correct.

16 Q. All right. And did you, Professor, analyze the response of
17 investors while the price of UST was falling in May of 2021?

18 A. I did.

19 Q. And what was happening in the market?

20 A. The price of UST, again, beginning around May 19th or so,
21 had started to fall well below \$1, and the price of Luna was
22 falling as well, down from the \$15 that we just saw on the
23 exhibit that just got taken down.

24 Q. And did you create a demonstrative showing redemptions from
25 the Anchor protocol in May of 2021?

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1 A. I did.

2 MR. CARNEY: Can we please pull up Mizrach
3 Demonstrative Exhibit 8.

4 Q. So first of all, just for context, could you just remind
5 everyone how the Anchor protocol related to UST?

6 A. Yes. The Anchor protocol was a place where investors could
7 deposit their UST and earn yields that were approaching
8 20 percent.

9 Q. And so what does your chart here, Mizrach Demonstrative
10 Exhibit 8, show?

11 A. This particular chart shows you in red and green bars
12 additions to the Anchor protocol, and then also subtractions,
13 people removing. And what we see is that on May 19th, when the
14 price of UST began to decline well below \$1, that there are
15 nearly \$30 million of redemptions, and that 30 million would
16 have represented roughly 10 percent of the total amount
17 deposited in the Anchor protocol at that time, all withdrawn in
18 a single day.

19 Q. Okay. So I'm going to ask you, Professor, to just break
20 this down for us a little bit.

21 So on a number of days we see green bars. What does a
22 green bar represent on your demonstrative?

23 A. So green bars are people placing on net money into the
24 protocol. There's always money going in and out. And these
25 are just representing the net transfers. So when you see the

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1 large green bar on the 18th, you see on net that people were
2 contributing about 8 million that day to the protocol. It then
3 shows on the following day, that on net, almost 30 million was
4 withdrawn.

5 Q. And just so the record is clear, when you say that on the
6 one day 8 million went in, the other day -- what was the number
7 you said?

8 A. Almost 30 million.

9 Q. Almost 30 million went out. 8 million of what, 30 million
10 of what?

11 A. These are UST that are being deposited into the Anchor
12 protocol.

13 Q. All right. Professor, I'm going to show you what has been
14 marked as Plaintiff's Exhibit 194, and this is just to display
15 to the witness, please.

16 And at a high level, without describing any of the
17 substance, can you just tell us what this chart shows?

18 A. It shows the net swaps of UST for Luna into the market swap
19 mechanism on the Terra blockchain.

20 Q. And, Professor, did you put this chart together yourself?

21 A. I did.

22 Q. And what is the source of the data you used to put this
23 chart together?

24 A. The terra blockchain.

25 MR. CARNEY: Your Honor, at this time I would move for

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1 the admission of Plaintiff's Exhibit 194.

2 THE COURT: Any objection?

3 MR. HENKIN: No objection.

4 THE COURT: Received.

5 (Plaintiff's Exhibit 194 received in evidence).

6 MR. CARNEY: Thank you. We can now display it.

7 Q. Professor, can you describe for us what's shown in your
8 chart in Plaintiff's Exhibit 194?

9 A. Yes. The swap module enabled folks to swap in both
10 directions. You could swap UST for Luna you could swap Luna
11 for UST. This particular table is netting those out, saying,
12 well, was there more swapping of Luna for UST, or as you can
13 see in all the days in this particular chart there was more
14 swapping of UST for Luna.

15 So it's netting out the swaps in both directions and
16 showing that for the days of May 23rd, May24th, and May 25th,
17 that there were large amounts of swapping in the direction of
18 burning UST and minting Luna.

19 Q. Okay. Professor, let's use May 24, 2021, as an example.
20 What does it mean in your chart when it says that the amount of
21 net swaps of UST for Luna was 40.62 on that day?

22 A. So this is a net amount, and just in principle, it could
23 reflect that, for example, 50 million had been swapped of UST
24 for Luna, 10 million had been swapped Luna for UST. The 50
25 minus the 10 is going to give us a net of 40 of swaps of UST

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1 for Luna.

2 Q. And so just to be clear, the unit of measurement here is in
3 millions?

4 A. That's correct.

5 Q. And you mentioned before that there were fees associated
6 with using the swap mechanism. Just for context, could you
7 remind us of the approximate amount of the fees?

8 A. The fees were typically around a half a percent. The
9 mechanism was designed to handle up to 20 million at 2 percent.
10 And on these three days, May 23rd, May 24th, and May 25th,
11 we're seeing net swaps that are far in excess of the capacity
12 of the swap mechanism.

13 Q. So what happens when it goes above that 20 million-dollar
14 mark you just mentioned?

15 A. Well, this is an example, again, of where the congestion
16 pricing comes in, which is that if the amount that people are
17 trying to swap is in excess of the capacity of the swap
18 mechanism, it starts to raise the swap fees to discourage
19 people from using it. Just like we raise the tolls to
20 discourage people from driving their cars when it's really busy
21 here in Manhattan.

22 Q. So what did you find with respect to whether UST for Luna
23 swaps exceeded this 20 million-dollar threshold after the
24 initial depeg you described on May 19, 2021?

25 A. So the chart is depicting three consecutive days, May 23rd,

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1 May 24th, and May 25th, in which that -- in which the net swap
2 succeeded the 20 million capacity of the mechanism.

3 Q. And how did those swap volumes on those days impact the
4 swap fees?

5 A. Well, as there was more and more demand to swap in one
6 particular direction, the costs of trading of, in this case,
7 swapping UST for Luna went up, and they went well above the
8 half percent or 2 percent to much, much higher rates of fees.

9 MR. CARNEY: Okay. If we could please just show to
10 the witness Plaintiff's Exhibit 196.

11 Q. And, Professor, just at a high level, what is this chart
12 that is shown here?

13 A. So I'm looking in this particular chart at the market swap
14 fees, over the range that we saw in the table from May 21st
15 until the end of May 28th.

16 Q. So before you get into the substance of it, did you prepare
17 this chart?

18 A. Yes, I prepared the chart.

19 Q. And what was the source of data you used in preparing
20 Plaintiff's Exhibit 196?

21 A. The swap fees are captured on the terra blockchain.

22 Q. And is this chart an accurate description of the swap fees
23 during that time?

24 A. It is.

25 MR. CARNEY: Your Honor, I would move for the

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1 admission of Plaintiff's Exhibit 196.

2 MR. HENKIN: No objection.

3 THE COURT: Received.

4 (Plaintiff's Exhibit 196 received in evidence)

5 MR. CARNEY: Thank you, your Honor.

6 Q. What does this chart show, Professor, with respect to the
7 swap fees during the May 21st to May 29th, 2021 period that you
8 mentioned?

9 A. It shows that swap fees were substantially above the half
10 percent, which was typical. And then by May 23rd,
11 substantially above the 2 percent once the swapping began to
12 exceed the capacity of the mechanism. And we even see, these
13 are hourly medians, those are just simply where 50 percent of
14 the fees were higher than that, and 50 percent of the fees were
15 lower.

16 So just looking, for example, on May 23rd, you can see
17 that the fees are approaching in their median at roughly
18 8 percent. So 50 percent of traders were paying more than
19 8 percent. 50 percent were paying less. And we can see that
20 the capacity of the mechanism continued to be strained beyond
21 May 23rd, and there's actually a period on May 25th in which
22 the median swap fees rise above 10 percent.

23 Q. And so, Professor, what does this tell you, this analysis
24 of yours, about whether the swap mechanism was profitable or
25 not during the time period from May 23rd to May 25th?

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1 A. The swap mechanism, the logic behind the swap mechanism was
2 to encourage traders to do the arbitrage trade that we talked
3 about on my example. So that meant acquiring UST at a
4 discount, swapping, and then swapping the Luna in turn for
5 dollars. This particular chart is showing us that the fees of
6 doing that, and this is just one portion of the fees, were
7 sufficiently high to discourage people from making the
8 arbitrage. They would have been paying more in fees than they
9 would have been gaining in their increased value from UST.

10 Q. So in your opinion could the swap mechanism have restored
11 the peg with the fees so high?

12 A. It could not.

13 Q. You mentioned earlier that it was your conclusion in this
14 case, and we're going to get into this in detail a little bit
15 more, is that Jump -- without Jump Trading, the peg, UST peg
16 wouldn't have been restored to \$1. Let me ask you about that
17 opinion though.

18 Was the Jump trading that you believe restored the peg
19 happening through the swap mechanism?

20 A. No, it was not.

21 Q. Where was the Jump trading happening?

22 A. The Jump trading that I found restored the peg was going on
23 on centralized exchanges like KuCoin.

24 Q. Are you familiar with something called Jump proposition 90?

25 A. I am.

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1 Q. Just at a high level, what was Jump proposition 90?

2 A. Proposition 90 was a proposal that was made to the terra
3 blockchain community to enlarge the swap mechanism. Jump had
4 done research and knew that there were limits to the swap
5 mechanism, and they had proposed on May 23rd, on the day of
6 these events, to enlarge the size of the swap mechanism.

7 Q. You said they made the proposal on May 23, 2021?

8 A. That's correct.

9 Q. Was proposition 90 in effect when you say Jump's trading
10 restored the peg?

11 A. It was not. The proposition 90 occurs only after the peg
12 had been restored -- is passed by the community only after the
13 peg has been restored.

14 Q. So did proposition 90 in your opinion have anything to do
15 with helping to restore the peg on May 23, 2021?

16 MR. HENKIN: Objection. Outside the scope of the
17 opinion.

18 MR. CARNEY: May I have a side bar, your Honor.

19 THE COURT: All right.

20 (Continued on next page)

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1 (At sidebar)

2 MR. CARNEY: Your Honor, in his report he discusses
3 the failure of the swap mechanism.

4 MR. PELLEGRINO: Slow down.

5 MR. CARNEY: I'm sorry. I was trying to make up for
6 the reporter.

7 THE COURT: Go ahead.

8 MR. CARNEY: He discusses the failure of the swap
9 mechanism. The swap mechanism was not working. He discusses
10 Jump's effort to permit this proposition 90. And I think it's
11 fairly -- and I have to go back and look at the report, but I
12 think it's fairly implicit in his report that his opinion in
13 this case is that it was Jump's trading off-chain on the
14 exchanges that restored --

15 THE COURT: Well, you've already brought that out.
16 The specific question is the question was about proposition 90.
17 If it's in the report, he can testify. If it's not, he can't.

18 MR. CARNEY: So, your Honor, I cannot honestly say
19 right now that I know that that specific statement was in the
20 report, but the foundations for it were.

21 THE COURT: I understand what you're saying but that's
22 not -- as I've already indicated, many times I hold people to
23 exactly what's in their report. So sustained.

24 (Continued on next page)

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Mizrach - Direct

1 (In open court; jury present)

2 BY MR. CARNEY:

3 Q. Professor, I apologize if I just asked you this, but just
4 to reorient ourselves, the trading that you believe Jump used
5 to restore the peg, did that occur through the swap mechanism
6 or through some other means?

7 A. The trading was on centralized exchanges off of the Terra
8 blockchain.

9 Q. All right. I'm going to now ask you to take a look at
10 Plaintiff's Exhibit 192. And this is hopefully just displayed
11 to the witness.

12 Can you just at a high level describe what's shown on
13 this chart?

14 A. It's showing the price of Luna tokens in U.S. dollars
15 between May 19th and May 27th, 2021.

16 Q. And what is the source of data you used in preparing
17 Plaintiff's Exhibit 192?

18 A. It was from a centralized exchange called FTX.

19 Q. And did you prepare this chart?

20 A. I did.

21 Q. Is it an accurate description of the price of Luna during
22 the period from May 19th to May 27th, 2021?

23 A. It is.

24 MR. CARNEY: Your Honor, at this time I would move for
25 the admission of Plaintiff's Exhibit 192?

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1 MR. HENKIN: No objection.

2 THE COURT: Received.

3 (Plaintiff's Exhibit 192 received in evidence)

4 BY MR. CARNEY:

5 Q. Professor, what was the price of Luna on May 19, 2021?

6 A. Approximately 15 U.S. dollars.

7 Q. And what was the price of Luna on May 23, 2021?

8 A. Approximately \$4.

9 Q. And you had mentioned earlier that Jump was still entitled
10 to acquire an additional amount of Luna under the second
11 agreement. How much, can you remind us, was Jump still
12 entitled to acquire?

13 A. More than 60 million.

14 Q. So how much did the value of the approximately 60 million
15 Luna that Jump was still entitled to acquire under the second
16 agreement decline between May 19th and May 23rd, 2021?

17 MR. HENKIN: Objection. We might need a side bar on
18 this.

19 THE COURT: Okay.

20 (Continued on next page)

21

22

23

24

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(At sidebar)

MR. HENKIN: Your Honor, it's essentially the same objection. That opinion isn't in his report. He wasn't asked that question.

MR. CARNEY: Your Honor, first of all, it's not an opinion. It's arithmetic in his report. He discusses that Jump still had the right to acquire a 60 million. The chart that was just --

THE COURT: The objection is overruled.

(Continued on next page)

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Mizrach - Direct

(In open court; jury present)

BY MR. CARNEY:

Q. Professor, I'm going to ask that question again, how much did the value of the approximately 60 million Luna that Jump was still entitled to acquire under the second agreement decline between May 19th and May 23rd, 2021?

A. Just using a round figure of 60 million, when prices on May 19th were at \$15, the 60 million is worth 900 million, and four days later on May 23rd, with the price at \$4, that 60 million is now only worth 240. And the difference between those is a 660 million-dollar difference.

Q. And we can take this one down. Thank you.

Professor, you testified previously that you reviewed Jump's trading records; is that right?

A. I did.

Q. And so now I want to turn your focus to Jump's trading in May of 2021. Did Jump trade in UST during that time?

A. It did.

Q. From May 23rd through May 27th, 2021, where did Jump trade UST?

A. Jump traded in approximately 12 UST payers on a number of different centralized exchanges, including KuCoin.

Q. Did Jump trade at all on the Terra blockchain?

A. It did.

Q. Where was most of Jump's trading in UST focused during the

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Mizrach - Direct

1 time period from May 23rd to May 27th, 2021?

2 A. It was focused off the blockchain on the centralized
3 exchanges.

4 Q. And were there any particular trading -- first of all,
5 what's a trading pair?

6 A. So UST could be converted on centralized exchanges into a
7 bunch of different assets. So you could transform UST into
8 Tether, which was another stablecoin. You could also transfer
9 UST into Bitcoin, and those were among the two payers that I
10 studied for this matter.

11 Q. And so during this May 23rd to May 27th, 2021 time period,
12 what were the two most active trading pairs that Jump was
13 trading in?

14 A. They were the two that I just mentioned, the Tether UST
15 payer and the Bitcoin UST payer were the most active for Jump.

16 Q. And, professor, I'm going to show you what's been marked --
17 and this will just be displayed to the witness at this time,
18 Plaintiff's Exhibit 199. And can you just at a high level tell
19 us what this shows?

20 A. We're looking at Jump's daily cumulative and net trading in
21 the Tether UST payer on KuCoin.

22 Q. And, professor, did you prepare this chart yourself?

23 A. I did.

24 Q. And what is the source of the data you used in preparing
25 Plaintiff's Exhibit 199?

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1 A. It's from Jump's trading records.

2 Q. And is this chart an accurate description of Jump's trading
3 of UST on KuCoin in May 2021?

4 A. It is.

5 MR. CARNEY: Your Honor, I would move for the
6 admission of Plaintiff's Exhibit 199.

7 MR. HENKIN: No objection.

8 THE COURT: Received.

9 (Plaintiff's Exhibit 199 received in evidence)

10 MR. CARNEY: Thank you, your Honor.

11 Q. Professor, what does this chart show with respect to Jump's
12 trading in UST on KuCoin from May 1st through May 19th, 2021?

13 A. So the first part is showing their cumulative position,
14 either in red, when that cumulative position was negative, or
15 in turn in green, as you can see beginning on roughly May 21st,
16 where their cumulative position, meaning their net purchases
17 were now positive and they had bought more UST rather than
18 Tether.

19 And then we can track what's happening each individual
20 day by looking at the -- it looks on my screen like a black
21 line. It might be blue. But in any case, the line that's not
22 a bar is one that's showing what's happening each day. So we
23 can see what was their daily net position, and then we're just
24 simply summing up those daily nets to get the red or green bars
25 that represent their cumulative position.

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1 Q. And so I want to focus your attention on sort of the --
2 maybe we'll call it the first two-thirds of the chart where
3 there's little red lines and they're small.

4 What does this chart show with respects to Jump's
5 trading and UST on KuCoin during that period, which looks to be
6 May 1, 2021, to May 19, 2021?

7 A. It shows that Jump was primarily acting in the first
8 roughly two-thirds of this chart as a market maker or liquidity
9 provider, both buying and selling roughly equal amounts of UST.

10 Q. And can you remind us of what a market maker is?

11 A. Well, a market maker is simply someone who wants to both
12 buy and sell a particular asset, but the market maker tries to
13 keep a relatively flat position. They don't want to accumulate
14 a lot or wind up very short. And so they try to balance over a
15 period of days or hours even to try to keep their position
16 approximately at zero.

17 Q. And what are the dates of the big sort of green lines in
18 your chart?

19 A. The big green lines begin on May 23rd, and this is when
20 Jump changes their trading posture from being a market maker to
21 being more of a directional trader, making a decision to
22 actually become a large purchaser of UST.

23 Q. And what does that mean, a directional trader?

24 A. So we sometimes use these terms in finance to distinguish
25 between people that want to maintain a relatively flat or

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1 stable position and buy and sell in equal amounts. Those folks
2 we call liquidity providers or sometimes market makers. So
3 they're there on both sides, but trying to stay roughly at
4 zero.

5 But then a directional trader is someone who begins to
6 accumulate a position in one direction, and, again, this takes
7 them well away from the zero line. And as you can see after
8 May 23rd, Jump continues to accumulate and become a large net
9 purchaser approaching 40 million by the end of the month of
10 UST.

11 Q. In that end of the month period, was Jump still engaging in
12 the market making that you mentioned earlier?

13 A. Yes. There's market making that's going on, but this is
14 netting out the combination of their market making activities
15 and their directional trades, and it says that the trading
16 posture has shifted. They still are doing some market making,
17 but on balance, they're ending each day with more UST.

18 Q. And what is the significance of that fact to your analysis?

19 A. It tells me that Jump was using trading on centralized
20 exchanges to try to support and restore the peg.

21 Q. I'm going to show you now, Professor, what's been marked as
22 Plaintiff's Exhibit 197.

23 And could you just at a high level describe to us
24 what's shown in this chart?

25 A. These are Jump's net purchases in the same pair, Tether UST

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1 on KuCoin, but just focusing on May 23rd.

2 Q. And did you prepare this chart?

3 A. I did.

4 Q. And what is the source of data you used in preparing this
5 chart in Plaintiff's Exhibit 197?

6 A. It's again from Jump's trading records.

7 Q. Is it an accurate reflection of Jump's trading of Tether
8 UST on KuCoin on May 23, 2021?

9 A. It is.

10 MR. CARNEY: Your Honor, I would move for the
11 admission of Plaintiff's Exhibit 197.

12 MR. HENKIN: No objection.

13 THE COURT: Received.

14 (Plaintiff's Exhibit 197 received in evidence)

15 MR. CARNEY: And if we could please display that now.
16 Thank you, your Honor.

17 Q. Professor, can you tell us what your analysis of Jump's
18 trading records showed about Jump's trading on May 23, 2021, on
19 KuCoin in the Tether UST pair?

20 A. Yes. It shows me that for up until 1430, and the times
21 here -- I'm sorry, I'll use military time. 1430 is 2:30 p.m.
22 And we're using Greenwich Mean Time, that's the time actually
23 in London where the prime meridian is. And the reason we do
24 that is because these are 24-hour markets and you have to have
25 some reference point, so we tend to use the meridian time, the

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1 Greenwich Mean Time.

2 So at 1430 in Greenwich time over in England, about
3 five hours ahead of Chicago, we see that there's a surprising
4 change in Jump's trading posture to purchase just in one half
5 hour approximately 10 million UST, and that net purchase at
6 that time between -- in that half hour, was the equivalent of
7 what Jump had traded typically on two entire days.

8 So two entire days of trading are now concentrated in
9 just one half hour of the trading day on May 23rd.

10 Q. And was this trading happening on-chain or off-chain?

11 A. This is again on KuCoin, that centralized exchange that's
12 off the Terra blockchain.

13 Q. So that large period of trading that you mentioned, where
14 is that reflected on this chart?

15 A. So the -- I think the thing that's hard to miss is the
16 large green bar. And so, again, green means, as it did in the
17 prior chart, net purchases. So they become a large net
18 purchaser in that half an hour and make net purchases of more
19 than 10 million UST. In fact, during this particular
20 timeframe, Jump only purchases. They don't sell UST.

21 Q. And was there another time period on that day when Jump
22 made large purchases of UST?

23 A. Yes. There are large purchases also at the end of the day.
24 And so you'll see two more green bars that represent I think 23
25 to 24 to midnight GMT, where again, Jump makes large net

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Mizrach - Direct

1 purchases in this particular trading pair.

2 MR. CARNEY: Thank you. Could we please display for
3 the witness Plaintiff's Exhibit 193.

4 Q. And can you just at a high level tell us what Plaintiff's
5 Exhibit 193 is, Professor?

6 A. It's showing us the change in price of UST with respect to
7 U.S. dollars in the period from May 19th to May 27th.

8 Q. And did you prepare this chart?

9 A. I did.

10 Q. And what is the source of the data that you used for this
11 chart?

12 A. One portion of it is just simply a feed directly from the
13 KuCoin exchange that was obtained from Jump. And the second
14 part is using some data that I capture on my own data center.

15 Q. And is this chart an accurate summary of the UST
16 depreciation with respect to U.S. dollars in the time period
17 reflected on the chart?

18 A. It is.

19 MR. CARNEY: Your Honor, at this time I would move for
20 the admission of Plaintiff's Exhibit 193.

21 MR. HENKIN: No objection.

22 THE COURT: Received.

23 (Plaintiff's Exhibit 193 received in evidence)

24 MR. CARNEY: Thank you, your Honor.

25 If we could please display it to the jury.

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1 Q. Professor, what does this chart show about the price of UST
2 during the time period you mentioned?

3 A. So in the early part of the graph you begin to see the
4 depeg, the decline in UST's value relative to the dollar. It's
5 falling below 98 cents as you can see on May 19th.

6 As we move forward, we also then begin to see the
7 really large decline in UST's price on May 23rd, and the price
8 I believe trades just a little bit below 93 cents at that
9 particular point in time on May 23rd. And then as you move on
10 from May 23rd, you see the restoration of the peg.

11 MR. CARNEY: And we can please take this down now.
12 Thank you.

13 Q. Can you remind us again what the question that the SEC
14 posed to you regarding Jump's trading?

15 A. I was asked to determine what if any role Jump had played
16 in restoring the peg of UST to \$1.

17 Q. And I think you previewed this earlier, but did you form an
18 opinion on this issue?

19 A. I did.

20 Q. And, again, what is your opinion on that issue?

21 A. My opinion is that Jump's trading on the centralized
22 exchanges on KuCoin in the Tether UST pair and also in Bitcoin
23 was a critical component in restoring the peg of UST to \$1.

24 Q. And what specific markets did you analyze Jump's trading in
25 to form this opinion?

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1 A. I looked at their trading on the KuCoin exchange and the
2 Tether UST pair, and also in the Bitcoin UST pair.

3 Q. And did you focus on a particular time period to form your
4 opinion in this matter?

5 A. I did. I focused on May 23, 2021.

6 Q. And why did you focus on May 23, 2021?

7 A. May 23, 2021 is the period in the chart that we had just
8 taken away where we see the peg begins to move away from its
9 bottom. So my view is that the peg would have probably been
10 permanently lost if it had not been for Jump's trading on
11 May 23rd.

12 Q. And can you describe the type of analysis that you
13 conducted regarding the trading on May 23, 2021?

14 A. Yes. When we began our discussion together, I was talking
15 about a tool that I use frequently in my work, as do other
16 microstructure economists, called a vector autoregression.

17 Q. And what did your analysis using that tool show regarding
18 the impact that Jump's trading had on the price of UST in the
19 Tether UST pair on KuCoin on May 23, 2021?

20 A. My analysis using the VAR and impulse response function was
21 that Jump's trading raised the price of the Tether UST pair by
22 95 cents, and in the case of the Bitcoin UST pair by 55 cents.

23 Q. Okay. And how did you employ this vector autoregression
24 model in your calculation of Jump's impact on the price?

25 A. The vector autoregression takes inputs from the market and

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1 from Jump's trading activity, and it then tells me the effect
2 of their trading. I then take that model that shows us the
3 effect of Jump's trading, and then use the impulse response to
4 remove the Jump trading and ask where the price would have been
5 had they not made these net purchases.

6 Q. And in your response that you just gave you mentioned the
7 term "inputs." What were the inputs to your model?

8 A. The inputs were first the mid quote. If you recall, that's
9 just the difference between the best bid price and the best
10 offer price, just the midpoint between those two.

11 And then the second input is whether or not Jump is a
12 buyer or seller in a particular trade.

13 Q. And where did the data that you used in this vector
14 autoregression model come from?

15 A. It was all obtained from Jump. Jump provided me the mid
16 quote prices, or I should say the best bid and offer prices
17 from KuCoin in the two pairs I analyzed. And Jump's trading
18 records identified for me each transaction and whether or not
19 they were a buyer or seller of UST in those transactions.

20 Q. So just let me follow up on that. How do you know whether
21 Jump was a buyer or seller in a particular transaction?

22 A. It's provided in the trading records that Jump produced.

23 Q. And, Professor, did you prepare a demonstrative showing how
24 you used these statistical tools you just described to conduct
25 your analysis?

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Mizrach - Direct

1 A. I did.

2 MR. CARNEY: Could we please put up I think this is
3 Mizrach Demonstrative Exhibit 9a.

4 Q. And, Professor, could you walk us through your
5 demonstrative.

6 A. Yes. This just contains a diagram of the way in which an
7 economist might estimate price impact. So one typically starts
8 with the mid quotes, again, just taking the best bid price and
9 the best offer price, taking the average of that, and then you
10 combine that with the trades that are taking place in the
11 market. And we're assigning a plus one when Jump is buying the
12 UST, and then we're assigning a minus one when Jump is selling
13 the UST. From that, you estimate the statistical model called
14 the VAR. And then the VAR is the input into this impulse
15 response function in which you can assess and isolate the
16 effect of, in this case, Jump's trading on the price.

17 Q. And did you take into account the quantities of UST traded
18 in each of these trades that received a plus one or a minus one
19 as you described it?

20 A. I did.

21 Q. How so?

22 A. Well, if we think back to our order books that we displayed
23 a bit earlier --

24 Q. And I'll pause for a second. Could we please pull up
25 Mizrach Demonstrative Exhibit 3 then, would that be helpful?

O42ASEC3

Mizrach - Direct

1 A. That would, sir.

2 So just to refresh everyone's memory, including mine,
3 about this example. We had a situation in which seller four
4 arrived wanting to sell 200 shares at 95 cents. That seller
5 matched with buyer one. And when that happened, there was a
6 price impact. We would see the price move down to a lower
7 price on the bid as a result of this.

8 Now, imagine the scenario -- and this is I think the
9 scenario that occurred with Jump Trading. Imagine a scenario
10 in which buyer one is actually willing to buy a much larger
11 quality. So, for example, 300 units rather than the 100 that
12 are displayed. So what would happen in this instance? Well,
13 seller four would arrive. They would not remove buyer one from
14 the order book. Buyer one would still be there with a
15 remaining quantity of 100 shares, and seller four would now be
16 the one who vanishes from the limit order book. So where are
17 we after all that's done? Well, after all that's done we're
18 back to the order book we started with, with a bid price of 95
19 cents and a sell price of 99 cents, a mid quote of 97.5 cents.

20 So, in this instance, the decision of buyer one to be
21 a large liquidity provider of the asset of the financial
22 instrument, they prevented the price from having the market
23 impact of two and a half cents, and the market impact is now
24 zero.

25 Q. Professor, is the approach that you took to buys and sells

O42ASEC3

Mizrach - Direct

1 in your model consistent with academic literature on the
2 subject?

3 A. Yes. I've published many peer-reviewed articles using
4 these techniques in a wide variety of different markets,
5 including crypto.

6 Q. And you also -- you have mentioned a few times the impulse
7 response function tool that you used. Could you just at a very
8 high level in simple terms explain what the impulse response
9 function does?

10 A. Yes. It enables us to hold other market factors constant,
11 put them in the background for a moment and isolate the effect
12 of just one particular input to the trading process.

13 Q. And how did you use the impulse response function for your
14 analysis here?

15 A. In this particular matter, the impulse response was used to
16 analyze what would have happened if Jump had, instead of
17 becoming a net buyer of UST, had simply remained a market maker
18 keeping a relatively flat position in the asset.

19 Q. So what did your impulse response function do with respect
20 to Jump's net purchases that you talked about earlier?

21 A. So I remove all of Jump's net purchases in the two asset
22 pairs, and ask where the price would have been had Jump not
23 contributed that net trading amount.

24 MR. CARNEY: And if we can put up Mizrach
25 Demonstrative Exhibit 9b.

O42ASEC3

Mizrach - Direct

1 Q. Is this a demonstrative you prepared showing how the
2 impulse response function works?

3 A. Yes. What the exhibit is helping us to remember is that
4 we're holding factors, other factors constant. And holding
5 those factors constant, we then do what economists call a
6 shock, and what we would just call a change, a change in the
7 market.

8 And the change in the market on May 23rd was Jump's
9 decision to become not a market maker with a relatively flat
10 position in UST, but to become a large acquirer, a large net
11 purchaser of UST. And so the IRF enables us to do the exercise
12 of saying what would have happened had they not in this case
13 purchased 15 million net of Tether -- of UST in the Tether
14 market, and 3.5 million net in the Bitcoin UST pair.

15 Q. And what did the impulse response function predict
16 regarding the price of UST had Jump done what you just
17 described and just traded as a market maker?

18 A. So my analysis in the Tether UST pair says it would have
19 been as much as 95 cents lower. And in the case of the Bitcoin
20 UST pair, the price would have been as much as 55 cents lower.

21 Q. What was the lowest price that UST traded at during that
22 time period?

23 A. As we saw in the exhibit that I had shown you about the
24 evolution of UST prices, it traded just slightly below 93
25 cents.

O42ASEC3

Mizrach - Direct

1 Q. So, Professor, how could it be that Jump's purchases
2 effected the price by 95 cents if UST never traded below 93
3 cents?

4 A. Well, statistical models sometimes generate conclusions
5 that are not logical. And what do I mean by that in this
6 instance? Well, something very, very unexpected happened.
7 Beginning at 1430, Jump pushes through two days worth of
8 trading volume in a half an hour. And what happens to
9 statistical models, when something unique or unexpected has
10 happened, is that it generates a lot of uncertainty. I don't
11 know, is there going to be another 10 million-dollar borrow
12 that follows it, or is there going to be another 5 million, or
13 are they going to go back to just being a market maker?

14 That uncertainty is reflected by, in these statistical
15 estimates, the possibility that the price could go below zero,
16 but I think we all know logically that selling would have
17 stopped in UST at the price of zero, there would have been no
18 reason to continue to sell UST if you were getting nothing in
19 return.

20 THE COURT: Counsel, how much more do you have?

21 MR. CARNEY: I will finish before 1:00, your Honor.

22 THE COURT: Okay. You've answered my question.

23 MR. CARNEY: Thank you, your Honor.

24 Q. So let's finish up then. We have 13 minutes, Professor.

25 Could a member of the public in May 2021 have seen

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Mizrach - Direct

1 that Jump was buying large amounts of UST off-chain?

2 A. No.

3 Q. Why not?

4 A. That information is not available to the public from the
5 centralized exchange. We don't know who is trading with whom
6 on those exchanges. We can only typically find that out if we
7 get confidential records.

8 Q. Could a member of the public in May of 2021 have seen
9 that -- putting aside Jump, that a single entity was buying
10 large amounts of UST off-chain?

11 A. There wouldn't be any way to know the number of entities
12 that were buying that quantity. Wouldn't have known whether it
13 was one or dozens.

14 Q. Professor Mizrach, are you aware that defendants have hired
15 an expert from the University of California to critique your
16 model and opinions here?

17 A. Yes, I'm aware.

18 Q. And have you reviewed his critiques?

19 A. I have.

20 Q. All right. And, first of all, big picture, and this is a
21 Professor by the name of Terrance Hendershott; is that right?

22 A. That's correct.

23 Q. First of all, at a high level, do you agree with any of his
24 critiques of your model?

25 A. No.

O42ASEC3

Mizrach - Direct

1 Q. I want to -- why not?

2 A. I'd start with by saying that Professor Hendershott has not
3 introduced his own model. He hasn't provided any statistical
4 analysis other than to critique in some form mine. And I've
5 reviewed all of the comments that he made and provided a
6 rebuttal report showing where I think that his criticisms just
7 simply don't apply to the inferences that I've made in this
8 case.

9 Q. Professor, was one of the criticisms that Professor
10 Hendershott makes of your model that you don't account for
11 trade size?

12 A. That's correct.

13 Q. Do you agree with that criticism?

14 A. I don't.

15 Q. Why not?

16 A. Well, as we discussed in the limit order book example, the
17 mid quote reflects the size in which people are willing to
18 trade. And so if a person was willing to provide a large
19 amount of liquidity or trade in larger size, it's going to be
20 captured by the fact that the mid quote isn't going to move
21 unless a really, really big trade comes along. So the
22 quantities are captured by the quotes as they enter and leave
23 the limit order book.

24 And, secondly, and this is just purely fundamental,
25 every time that Jump is buying, somebody else is selling, so...

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Mizrach - Direct

1 Q. Is one of Professor Hendershott's other criticisms of your
2 model that it doesn't account for the trading of other entities
3 besides Jump?

4 A. Yeah. So the trading of others is captured by the fact as
5 I think I was trying to say before, that every time Jump trades
6 and makes a purchase of UST, there had to have been somebody
7 else in the market that was selling it to them. So we see the
8 selling intentions and Jump's purchases of those sales in the
9 data.

10 Q. And was one of Professor Hendershott's criticisms of your
11 model that it just didn't make sense because it showed negative
12 prices for UST?

13 A. Yes. We briefly touched on this before that when you have
14 a statistical model and the statistical model all of a sudden
15 confronts some data that looks very, very different than what
16 had happened before, it sometimes generates uncertain outcomes
17 that we can use our -- you don't need a PhD in economics to
18 know that the price is not going to go below zero.

19 Q. And was another criticism of Professor Hendershott of your
20 model that you failed to break up Jump's trading between what's
21 known as passive and active trading?

22 A. I'm aware of the criticism.

23 Q. So, first of all, very quickly, what is a passive trade and
24 an active trade?

25 A. We could go back to our limit order books to think about

O42ASEC3

Mizrach - Direct

1 that a bit. Typically, there's someone who crosses to one side
2 or the other of the order book to initiate the trade, and we
3 call that the aggressive side. The side that then receives
4 that order is called the passive side, and I think that was not
5 an appropriate way to think about Jump's trading here because
6 Jump's intention was not to maximize the price movement of UST.
7 It was simply to maintain and restore the peg.

8 Q. So do you agree with Professor Hendershott's criticism that
9 you should have divided Jump's trading between passive and
10 active trades?

11 A. No. My analysis of the literature and also my own trading
12 experience suggests that a trading firm that was trying to
13 support a peg, trying to keep a price from falling below a
14 certain level, would use a mix of both active and passive
15 trading in order to try to support that peg. And so I utilized
16 something that then was clearly defined in the data that we
17 had: Was Jump a buyer or seller? And using that information,
18 could determine when Jump was supporting the peg.

19 Q. And I asked you about this criticism by Professor
20 Hendershott a little earlier, but I want to make sure the
21 record is clear on this.

22 Did you account for trade size in your model?

23 A. The trade sizes are reflected in what happens to the mid
24 quote. So large trades will move the mid quote more than
25 smaller trades. And the trade sizes handled by how much of the

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Mizrach - Direct

1 limit order book of the orders that are there are removed by a
2 particular trade of a particular size. And as logic would tell
3 you, a larger trade is going to remove more levels of the limit
4 order book and a smaller one less. So the mid quote, which is
5 one of the two inputs to the VAR, is capturing the effective
6 trade size.

7 Q. Couple more questions, Professor.

8 In your opinion, was Terraform's on-chain swap
9 mechanism functioning to restore the peg in May of 2021?

10 A. It was not.

11 Q. And why not?

12 A. The swap fees that we've talked about made the kind of
13 trading that would have been required to restore the peg
14 through the swap mechanism. Those fees made it unprofitable
15 for folks to try to use the swap mechanism as an arbitrage to
16 restore UST.

17 Q. Okay. Final question, Professor.

18 What is your opinion on the impact of Jump's off-chain
19 trading on the restoration of the UST peg in May of 2021?

20 A. Without the Jump trading that I've analyzed in the Tether
21 UST pair and the Bitcoin UST pair, my conclusion is that the
22 price would have been very, very close to zero, and it's likely
23 that the peg would have never been restored.

24 MR. CARNEY: No further questions, your Honor.

25 THE COURT: All right. So that's a good opportunity

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Mizrach - Direct

1 to go to lunch. So, ladies and gentlemen, we'll see you at
2 2:00.

3 (Continued on next page)

O42ASEC3

Mizrach - Direct

1 (Jury not present)

2 THE COURT: I will have my law clerk hand to the
3 parties my rulings on the deposition of Evgeny Gaevoy.

4 Now, as you know, we have an abbreviated schedule
5 tomorrow because I'm sitting on the Second Circuit in the
6 morning. So we will start 12:30, but I'm going to tell the
7 jury and recommending to you as well that you have your lunch
8 before then because we won't take a lunch break. We'll go from
9 12:30 to 3:30 with a mid afternoon break of 15 minutes.

10 So this is the SEC's last witness?

11 MR. CARNEY: Yes, your Honor.

12 THE COURT: All right. So either we'll end this
13 afternoon or sometime tomorrow.

14 Who is the first witness for the defense?

15 MR. PELLEGRINO: Chris Amani, your Honor.

16 THE COURT: Okay. And after that?

17 MR. PELLEGRINO: Zion Schum.

18 THE COURT: Okay. What I'm trying to figure out is --
19 and this is not binding, but just in a ballpark way, when you
20 think you'll rest. Do you want to think about that over lunch?

21 MR. PELLEGRINO: Let us discuss that, but I'll give
22 you one more witness, your Honor. After Mr. Schum would be
23 Matt Cantieri. That is the individual we mentioned is
24 appearing by video, so we would also need to make those
25 arrangements with the Court.

O42ASEC3

Mizrach - Direct

1 THE COURT: Okay. The reason I'm asking is because we
2 told the jury two weeks. And I think counsel on both sides
3 have been reasonable in how they've handled witnesses. Part of
4 the problem is my own schedule, which has led to shorter days
5 than I had hoped. But I think we need to flag for them what
6 the schedule is, the remaining schedule is. So just think
7 about that and we'll talk about it after lunch.

8 MR. PELLEGRINO: Sounds good, your Honor. Thank you.

9 MR. FERRARA: Your Honor, there might be one other
10 way. We had mentioned earlier there might be one other way to
11 streamline things.

12 We noticed in your Honor's rules that for civil cases
13 you allow rebuttal only if there are two or more defense
14 closings. We would be prepared to waive our closing and have
15 just the SEC closing and then the Terraform Labs closing, and
16 that which we think is in accord with your Honor's rules and
17 which we think would streamline things even further.

18 THE COURT: Well, I'm perfectly happy to hear argument
19 on all that, and obviously you need to know sooner rather than
20 later. But I think the -- that rule was really designed in
21 part to flag my normal practice. It's not an absolute for
22 every single situation. So we need to discuss a little bit
23 what the situation is here. But that's an interesting
24 possibility.

25 You wanted to say something about this?

O42ASEC3

Mizrach - Direct

1 MR. CARNEY: Your Honor, and obviously your Honor
2 knows better than anyone, but it was our understanding that
3 your Honor's rule was more tied to whether the government was
4 the litigant in the --

5 THE COURT: Well, part of this, this all developed --
6 this is more legislative procedure than you need to know. In
7 New York State Court, the most common practice in private civil
8 actions is to have the defendant sum up first and the plaintiff
9 sum up second on the theory that the plaintiff has the burden
10 of proof. I have always thought that was very unhelpful to the
11 jury because they need to hear first what the basic case is
12 about as the plaintiffs believe it to be and then -- but I
13 didn't, in most of those cases, I didn't think rebuttal was
14 necessary except when there were multiple defendants. And so
15 that was the basic arch in the rule.

16 Because the SEC has had this unfortunate practice
17 until recently of trying to try most of its cases in-house, I
18 haven't had occasion to really think this through in a
19 government civil kind of situation. But on the other hand, I
20 think there's some appeal to what defense counsel has just
21 raised, so certainly going to contemplate that seriously. So
22 but we need to get this resolved clearly in the next day or so
23 because we will have summations. What I really want to know
24 from my standpoint is are we going to have summations on Friday
25 or Monday?

O42ASEC3

Mizrach - Direct

1 MR. PELLEGRINO: Your Honor, on that, not holding us
2 to it, we have been discussing with the SEC and I think we're
3 probably going to be able to land this by Thursday. At the
4 latest summations Friday is what we're thinking right now.

5 THE COURT: Okay. I need to know that in part because
6 I have scheduled some other matters for Friday, but if we were
7 going to have summations, I would cancel those or move those to
8 very late in the day. So to be continued. Okay?

9 MR. FERRARA: May we put in a short letter on it, your
10 Honor, on the summations point?

11 THE COURT: Sure.

12 MR. CARNEY: And, your Honor, it was probably obvious
13 what our position was, but just so the record is clear, the SEC
14 would love if we could help establish a new precedent that in
15 SEC civil cases, the SEC is afforded the opportunity to offer a
16 rebuttal closing no matter how many defense closings there are.

17 THE COURT: Okay. Well, as soon as the Supreme Court
18 in *Jarkesy* tells you that you can't have any in-house cases,
19 we'll take that under consideration.

20 MR. CARNEY: Thank you.

21 (Lunch recess)
22
23
24
25

O42HSec4

AFTERNOON SESSION

2:00 p.m.

(In open court; jury not present)

THE COURT: Please be seated.

So in terms of scheduling, anything further that defense counsel had?

MR. PELLEGRINO: Yes, your Honor. We've had a chance to talk. The first two witnesses perhaps provide the most uncertainty. What we're estimating right now is we would probably rest around Thursday afternoon or latish Thursday, and then I think, your Honor —

THE COURT: We're only going to 3:30 on Thursday.

MR. PELLEGRINO: 3:30.

I think the parties' cases-in-chief would be completed by then. I'm not sure what the Court has planned for the charge conference and things of that nature.

THE COURT: OK. That's what I need to know. Let me think about it, and we'll have — you can plan on summations either being Friday or Monday, but I'll let you know. Obviously, I'll have a better sense tomorrow.

The witness can come on up, and let's bring in the jury.

And I'd like to know by tomorrow how long each side wants for summation under either of the alternatives, either no summation from Do Kwon and no rebuttal from the SEC or the

O42HSec4

1 other alternative. We could maybe have 15-minute summations on
2 Thursday evening and get it all done with. Maybe not.

3 (Continued on next page)

O42HSec4

Mizrach - Cross

1 (Jury present)

2 THE COURT: Please be seated.

3 Before we continue, ladies and gentlemen, I just
4 wanted to mention, so I don't forget it later, tomorrow the
5 higher court — my bosses are what's called the Second Circuit
6 Court of Appeals. It sits across the road here in the
7 different courthouse. And in a moment of weakness, they've
8 asked me to sit with them as an appellate judge tomorrow
9 morning. So since they're my bosses, how can I say no?

10 So the result is we will have a special schedule
11 tomorrow. We will start at 12:30, but you should have your
12 lunch before you come, and then we'll go from 12:30 to 3:30
13 with a short break in the middle of the afternoon.

14 So you should not worry. We're still very much on
15 schedule. So don't worry about that, but I do want you to
16 know. So tomorrow we'll start at 12:30, but after your lunch.

17 OK. Counsel.

18 BRUCE MIZRACH, resumed.

19 CROSS-EXAMINATION

20 BY MR. HENKIN:

21 Q. Good afternoon, Professor Mizrach. I'm Douglas Henkin. I
22 represent Terraform Labs.

23 Is it correct that you and I have met only once
24 before, at your deposition?

25 A. That's correct.

O42HSec4

Mizrach - Cross

1 Q. I wanted to ask — start out with some questions.

2 During your direct testimony, you testified that you
3 got data from Jump, and I just want to make sure I understand
4 what you meant by that.

5 Am I correct in understanding that the SEC subpoenaed
6 information from Jump and then provided that to you, not that
7 you got anything directly from Jump?

8 A. My understanding is it came under subpoena to the SEC and
9 then to me.

10 Q. And then to you.

11 Then can we pull up — Mr. Aquino, can we pull up
12 Professor Mizrach's Demonstrative 6 that has been shown to the
13 jury.

14 Professor, I just wanted to check to see whether there
15 might have been some mistakes in this demonstrative exhibit.
16 So if you look at the footer, it says "Source: SEC," and it's
17 got a long number, "for the strike prices and date of first
18 agreement. Terra blockchain for delivery date."

19 I don't see anything about that on the chart. Is that
20 an erroneous footer?

21 A. The part that's correct is just that the data are from the
22 Terra blockchain.

23 Q. And it also refers to aUST supply and aUST deposits, but
24 isn't it true with Anchor you deposit UST and get aUST back?

25 A. Correct. So this is just reflecting the amount of UST that

O42HSec4

Mizrach - Cross

1 has been transformed into aUST.

2 Q. So it shouldn't say aUST anywhere on the chart, should it?

3 A. I don't agree. It's clear these are deposits of UST that
4 have been placed in the Anchor protocol.

5 Q. You think aUST and UST are the same things?

6 A. I do not.

7 Q. Now, you said during direct that your opinion is that
8 without Jump's trading the UST peg wouldn't have been restored
9 to a dollar, correct?

10 A. That's correct.

11 Q. For purposes of your analysis, the SEC told you to assume
12 that Terraform and Jump had an agreement for Jump to restore
13 the peg, right?

14 A. They didn't tell me. I verified that the agreement
15 existed.

16 Q. So you never said in your report that I have been informed
17 by counsel that Terra and Jump entered an agreement in which
18 Jump agreed that it would purchase UST to support the peg?

19 A. And I then saw the documents that provided the conditions
20 of those agreements.

21 Q. So you weren't — you were first informed about that by the
22 SEC?

23 A. That's correct.

24 Q. You don't have any personal knowledge about Jump's goals in
25 trading UST, is that right?

O42HSec4

Mizrach - Cross

1 A. No.

2 Q. And, in particular, you don't know what Jump's goals were
3 in entering into the original Luna loan agreement that you
4 discussed on your direct, correct?

5 A. No.

6 Q. And putting aside what you assumed, you don't know
7 — strike that.

8 You don't know why Jump engaged in any specific UST
9 trades in May 2021, correct?

10 A. I know that they had an incentive to restore the peg.

11 Q. That's not the question I asked.

12 You don't know why Jump engaged in any specific UST
13 trades in May 2021, yes or no?

14 A. The trading was intended to restore the peg, so, yes, I do.

15 Q. But that's your conclusion. You're not testifying as to
16 Jump's knowledge?

17 A. No, I have no knowledge other than that they were buying a
18 lot of UST.

19 Q. And one of your assumptions is that when the price of UST
20 got as low as it did on May 23, 2021, no one other than Jump
21 would have stepped in as a buyer, right?

22 A. That's not my assumption.

23 Q. So you acknowledge that other buyers could have stepped in?

24 A. I know that other buyers didn't step in.

25 Q. And when you say you know that other buyers didn't step in,

O42HSec4

Mizrach - Cross

1 you're only referring to the half-hour time period that you
2 discussed with Mr. Carney?

3 A. No, there's also a period later in the day where Jump is —
4 is the majority purchaser of UST.

5 Q. It's correct that you didn't look to see whether the market
6 as a whole viewed UST as likely to repeg and traded with that
7 goal in mind?

8 A. You'd have to be more specific about which markets and
9 which trades.

10 Q. In working — in developing Exhibit 1, which is your VAR
11 model in your expert report, did you search for any public
12 information that might have indicated that the market viewed
13 UST as likely to repeg?

14 A. That information is not an input into the VAR.

15 Q. And more specifically, is it correct that your model only
16 includes Jump's UST trades on May 23, 2021?

17 A. That's one part. It also includes the quotes, which
18 represent the limit orders of other traders.

19 Q. And you only looked at Jump trades on May 23, not on any
20 other days, correct?

21 A. That's not true.

22 Q. Where in your report and the opinion that you reflect —
23 the opinion that you testified to do you take into
24 consideration days after May 23, 2021?

25 A. In my report there's documentation of, if I remember, more

O42HSec4

Mizrach - Cross

1 than 60 million purchases of UST across a longer time period
2 than May 23.

3 Q. There were other purchasers buying UST during that time
4 period, right?

5 A. Can you say which time period you're referring to.

6 Q. May 23 to May 25, 2021.

7 A. There were other purchasers of UST, yes.

8 Q. And some of them bought UST at prices lower than Jump
9 purchased, correct?

10 A. I — I don't know that.

11 Q. It's true, isn't it, that the price of UST dropped after
12 the half-hour of Jump trades that you focused on in your direct
13 testimony?

14 A. It — it dropped after the purchases had started to drive
15 the price up, yes.

16 Q. It dropped after Jump — it dropped when Jump was no longer
17 trading?

18 A. That's correct.

19 Q. And it went back up while Jump wasn't trading yet, isn't
20 that also correct?

21 A. Jump is not making directional trades in that time frame,
22 but they are — they are making trades.

23 Q. Because the SEC asked you to focus on the effect of Jump's
24 trades, you didn't incorporate all other market trades of UST
25 on May 23, 2021, into your model, isn't that correct?

O42HSec4

Mizrach - Cross

1 A. I have used the orders, which represent the trading
2 intentions of the entire market, and then Jump's trades.

3 Q. So all the other trades, in your mind, were incorporated
4 into what you call the mid-quote?

5 A. The other trading intentions were incorporated into the
6 mid-quote.

7 Q. So it's your view that the mid-quote captures the trading
8 intentions of the rest of the market, right?

9 A. That's correct.

10 Q. And so trading by others is captured in the mid-quote?

11 A. Yes, it is.

12 Q. And you say that trading that's specifically trading
13 intentions of other traders are captured in the mid-quote,
14 right?

15 A. That's correct.

16 Q. But not Jump's trading intentions; those aren't captured in
17 the mid-quote?

18 A. No. Jump could be trading — could be present on the
19 mid-quote and be receiving the trading intentions of others.

20 Q. So it's your view that all information that might affect
21 your analysis, including possibly Jump's trades, is reflected
22 in the mid-quote?

23 A. No. Jump's trades are separate — separate input, and the
24 mid-quote reflects the trading intentions of others, of Jump
25 and non-Jump participants.

O42HSec4

Mizrach - Cross

1 Q. You testified on direct that UST began to depeg from a
2 dollar around May 19 — on May 19, correct?

3 A. That's correct.

4 Q. And do you agree that the price of other cryptocurrency
5 tokens dropped around the same time?

6 A. I — as I recall, both Bitcoin and Ether prices were also
7 falling around the same time.

8 Q. Specifically with respect to Bitcoin, the price of Bitcoin
9 fell more than 20 percent between May 18 and May 24?

10 MR. CARNEY: Objection, your Honor. Beyond the scope.

11 THE COURT: Overruled. You may have recross — or
12 redirect, if you wish.

13 A. So I don't have the specific percentages in my head right
14 at the moment, but I do know that Bitcoin and Ether prices were
15 falling around that time.

16 Q. So you don't have any reason to disagree that the price of
17 Ethereum over that period of time fell 35 percent, for example?

18 THE COURT: Sustained.

19 Q. You agree that the general consensus is that there was one
20 cause of the decline in price of all of the various
21 cryptocurrency tokens during this period of time, correct?

22 MR. CARNEY: Objection. Vague.

23 THE COURT: Sustained.

24 Q. Would you agree with the statement that some observers
25 speculated that the depeg of UST was caused by China's

O42HSec4

Mizrach - Cross

1 crackdown on banks' use of digital assets on May 19, 2021?

2 A. I've read those comments and seen them in the literature.

3 Q. And is it fair to say that it wasn't just UST whose price
4 was unstable during May 2021?

5 A. There — as we've discussed, there were other crypto assets
6 that were also declining in price.

7 Q. Is it fair to say that when markets are unstable, it's
8 common for trading firms to use human beings to make trades as
9 opposed to algorithms?

10 A. It would depend upon the firm and depend upon the time.

11 Q. Would you agree with the statement that manual trading is a
12 common technique employed when markets are unstable?

13 A. No, it's not just instability.

14 MR. HENKIN: Can we show the witness D-1939, page 20.

15 Q. Professor, does this refresh your recollection that you
16 stated that a common — that manual trading is a common
17 technique employed when markets are unstable?

18 A. And when the data are outside of what's called the training
19 set of the algorithms that had been in use prior to that.

20 Q. Did you use the phrase "training set" in the report, in
21 either of the reports that you submitted in this case?

22 A. I don't believe the word is in my report.

23 MR. HENKIN: Your Honor, move to strike the portion of
24 the witness' testimony where he referred to training sets.

25 THE COURT: Overruled.

O42HSec4

Mizrach - Cross

1 MR. HENKIN: Can you bring up, Mr. Aquino, PX 199,
2 please, but only for the witness. Or, actually, this is in
3 evidence, so the jury can see it as well. I'm sorry.

4 Q. Professor Mizrach, I wanted to ask you some questions about
5 this exhibit and, specifically, the horizontal line. So we're
6 not focusing on the bars.

7 A. OK.

8 Q. I think what you said in your direct is that the horizontal
9 line represents the trading that's going on as opposed to the
10 accumulated position, is that correct?

11 A. If we're referring to the line that has the legend daily
12 net, is that what you're referring to?

13 Q. The daily net, yes.

14 A. The daily net shows their position on the day, that's
15 right.

16 Q. OK. And so am I correct in reading this that by May 28,
17 Jump's daily net was about the same as it was prior to May 23?

18 A. On May 28, the daily net is at zero, which would have been
19 approximately the same daily net on May 22.

20 Q. And so if you look at the 29th, the 30th, and the 31st, the
21 daily nets on those days are consistent with the daily net in
22 the period prior to May 23, correct?

23 A. They're positive on the 29th, 30th, and 31st, whereas there
24 are many days prior where they're negative.

25 Q. But, for example, on May 16, which you didn't discuss

O42HSec4

Mizrach - Cross

1 during your direct, it's positive, right?

2 A. That's correct.

3 Q. Now, you talked during your direct about Jump's — the
4 price impact of Jump's trading was due to its net UST purchases
5 of 15.16 million UST on May 23, 2021, is that right?

6 A. That's with reference to the tether UST pair, that's right.

7 Q. Right. I'm excluding the Bitcoin.

8 A. Right.

9 Q. OK. And that position, the 15.16 million UST position,
10 that was built through the operation of what you called the
11 bookstacker program, is that right?

12 A. The net position takes into account all of Jump's trades.

13 Q. Is it not your opinion that most of the position was formed
14 using the bookstacker program guided by manual trading?

15 A. Bookstacker was used for a lot of the directional trading
16 on May 23, yes.

17 Q. And would you agree that bookstacker was not purchasing UST
18 continuously between May 23 and May 25?

19 A. Not continuously, no.

20 Q. And would you agree that book — that the first bookstacker
21 purchase occurred at 9:30 Central Time — so I'll leave it to
22 you to convert that to GMT — on May 23, 2021?

23 A. That's, I believe, the first bookstacker trade on May 23.

24 I'm not sure if it's the first bookstacker trade ever.

25 Q. Fair enough. What I meant was the first one on May 23.

O42HSec4

Mizrach - Cross

1 A. I believe that's the first use of bookstacker is at — it's
2 1430 GMT, so add five hours to the Central Time.

3 Q. And your model didn't look at the price of UST before that
4 time — so I'm going to go with GMT — before 1430 GMT?

5 A. No, the model is estimated over the trading activity for
6 the entire day.

7 Q. What happened to the price of UST in the 30 minutes prior
8 to 1430 GMT?

9 A. The price, as I recall, was falling heading into this 1430,
10 or 9:30 Central Time.

11 Q. Let's talk about different types of trades.

12 Toward the end of your direct testimony, you started
13 talking with Mr. Carney about active and passive trades. Do
14 you recall that?

15 A. Yes, I do.

16 Q. You would agree with me that passive buy trades can have a
17 different price impact than active buy trades, right?

18 A. They could.

19 Q. And because that's an empirical question, price impact can
20 be measured by analyzing data, right?

21 A. It is done by analyzing data.

22 Q. And your model doesn't differentiate between passive and
23 active trades, right?

24 A. It does not. It simply looks at when Jump is either a
25 buyer or a seller of UST.

O42HSec4

Mizrach - Cross

1 Q. Dr. Mizrach, if someone has the intention that Apple stock
2 will go to a million dollars and buys one share of stock with
3 that intention, does that goal make — does that intention make
4 the price more likely to hit a million dollars, in your
5 opinion?

6 A. I believe if you entered an order into the market right now
7 to buy one share at \$1 million, it would execute, but it will
8 price much lower.

9 Q. I'm sorry?

10 A. Is that me?

11 THE COURT: No. Go ahead.

12 A. I was saying that if you entered an order of that price of
13 a million dollars, which is — I think we all know is much
14 lower than where Apple's currently trading, the order would
15 execute, but at the best price that's available on the order
16 book.

17 Q. But that wasn't my question.

18 My question is does the intention, no matter what
19 price the order is entered at, make the likelihood of the price
20 hitting a million dollars more or less likely?

21 A. So it is possible that displaying more liquidity in the
22 order book could influence price, yes.

23 MR. HENKIN: Mr. Aquino, could you put up PX 194 and
24 196 next to each other, please. These are both in evidence, so
25 we're going to display them to everyone.

O42HSec4

Mizrach - Cross

1 Q. Professor, you talked about both of these exhibits with
2 Mr. Carney, and I want to just make sure that I understand how
3 this works.

4 On the left we've got PX 194, and that shows the
5 actual usage of the mint-burn mechanism, is that right?

6 A. It's the net usage of the mint-burn mechanism.

7 Q. So the net usage?

8 A. Yes.

9 Q. So net the usage of the mint-burn mechanism increases from
10 May 21 to May 24 and then decreases from May 24 to May 27, is
11 that right?

12 A. There's actually some of the highest fees do — do go into
13 May 25 as well.

14 Q. I wasn't asking you about the fees yet. I was just asking
15 about the actual usage in PX 194.

16 A. I'm sorry. I lost the question.

17 Q. OK. So let me go back to just the left side of the screen.

18 So we're looking — so on the left is PX 194. What
19 that shows is that the net usage of the mint-burn mechanism
20 increased from May 21 through May 24, reached its peak on
21 May 24, and then decreased from May 24 through May 27, right?

22 A. No, because as you can see, there's a slight increase on
23 May 27.

24 Q. But that number is still lower than it was on the 24th?

25 A. 11.07 is lower than the 40 million on May 24.

O42HSec4

Mizrach - Cross

1 Q. And on the right-hand side, so that's PX 196, that's
2 showing the swap fees. That's what I think you were — you
3 were anticipating a question. That shows what the swap fees
4 were during the same period of time?

5 A. Correct.

6 Q. So if we focus on May 23 through the 25th, you've got, if
7 I'm doing my math right, about \$97 million — 97 million UST
8 net use of the mint-burn mechanism?

9 A. So you're adding up the net swap totals for May 23, May 24,
10 and May 25?

11 Q. Correct.

12 A. And what did you ask me, what the total was?

13 Q. Is that about 97 million?

14 A. That seems about right, yeah.

15 Q. OK. And that's all happening while the fees, while the
16 swap fees, were between 4 percent and 10 percent?

17 A. So the data here are reporting hourly medians, so there are
18 going to be 50 percent of the fees that are going to be lower
19 than the points that you see in the blue line. So I can't
20 comment on which trader received which specific fees without
21 sourcing the blockchain.

22 Q. But what we do know is that some of the traders within
23 these groups transacted using the mint-burn mechanism at the
24 fees — at the swap fees that are shown on the right-hand side
25 of the screen in PX 196, right?

O42HSec4

Mizrach - Cross

1 A. Correct, 50 percent paid that level or more.

2 Q. OK. So if we just focus on PX 194, the left side, more UST
3 was swapped while fees were higher or at their highest than
4 when they were lower, isn't that right?

5 A. You have the causality backwards. The fees are higher
6 because more was being swapped.

7 Q. No, no, no, no. I'm just asking — I wasn't making a
8 causality question.

9 I'm just asking, when the trades happened, did they
10 happen when the swap fees were at their highest?

11 A. There definitely were people using the swap mechanism in
12 periods where the swap fees were quite high, as shown in the
13 right-hand graph.

14 Q. OK. Thank you.

15 So when you're evaluating the profitability of the
16 mint-burn mechanism, there's really three components, right?
17 There's whatever the purchase — whatever someone pays for UST,
18 there's the swap fee, and there's the proceeds from selling the
19 Luna. That was part of one of your demonstratives, right?

20 A. Yes, but I also mentioned as part of the direct that there
21 were other fees associated with that arbitrage.

22 Q. But aren't those effectively included in — so, for
23 example, whatever fees are incurred in purchasing UST are
24 factored into the purchase price and whatever fees are incurred
25 in selling Luna are factored into the sales price, right?

O42HSec4

Mizrach - Cross

1 A. That's not the way the fees work on all centralized
2 exchanges. It might not be reflected in the price that you
3 pay.

4 Q. So would you agree with me that if somebody could purchase
5 UST for 92 cents and swap it for a dollar of Luna, putting
6 aside the transaction fee issues, even if the swap fee was
7 5 cents, that trade would still be profitable?

8 A. In the start of your example, what was the acquisition cost
9 of the UST?

10 Q. 92 cents.

11 A. I would — in order to answer your question, I would have
12 to know, again, a number of other transaction costs which
13 you've not included.

14 Q. But it could be profitable depending upon what those other
15 costs were?

16 A. Yes, it could be profitable.

17 Q. OK. And so you would agree that a high swap fee in and of
18 itself doesn't preclude traders from using the swap mechanism
19 and still profiting, correct?

20 A. There's nothing that precludes anyone from using the swap
21 mechanism. The fees are reasonably transparent, and you can
22 decide whether or not to pay the fee.

23 Q. And as part of deciding whether or not to pay the fee, you
24 could also decide when to sell the UST; in other words, you
25 could wait for the swap fee to come down?

O42HSec4

Mizrach - Cross

1 A. Yes, yes, you could time — try to time your transactions
2 in the swap mechanism to get lower swap fees.

3 Q. And you agree, don't you, that Jump and other traders used
4 the swap mechanism on May 23?

5 A. They did.

6 Q. OK. And you were aware, in coming to your opinion, that
7 Jump was using the mint-burn mechanism, correct?

8 A. I was aware.

9 Q. Are you aware that Jump swapped 14.7 million UST through
10 the mint-burn mechanism on May 23?

11 A. I don't know that exact figure, but I know that they did
12 utilize — had utilized the swap mechanism on May 23.

13 Q. And it's your position, isn't it, that Jump's bookstacker
14 trading was not profitable?

15 A. I don't have an opinion on a particular trading strategy.
16 I have an opinion about what their net purchases did to support
17 the price of UST.

18 Q. So you don't recall stating that — you don't recall
19 responding to Professor Hendershott by saying "he explained
20 that since he calculated that Jump's trading in bookstacker was
21 profitable (which is not correct)," you don't recall making
22 that statement in your reply report?

23 A. I analyzed Professor Hendershott's value-weighted average
24 price calculation for Jump's acquisition through bookstacker
25 and thought that the number was computed incorrectly and had

O42HSec4

Mizrach - Cross

1 ignored certain important fees.

2 Q. So does that mean that you believe — does that mean that
3 you have an opinion regarding whether bookstacker traded —
4 whether Jump's bookstacker trading was or wasn't profitable?

5 A. My opinion is that I don't believe that Professor
6 Hendershott has calculated accurately the profit of that trade.

7 Q. Have you ever seen any evidence of the profitability of
8 Jump's trading during the May 2021 depeg?

9 A. I have not.

10 Q. Did you ask the SEC for any documents relating to the
11 profitability of Jump's trading during the May 2021 depeg?

12 A. I did not. I did not see any documents.

13 MR. CARNEY: Objection, your Honor. Vague as to which
14 Jump's trading we're talking about.

15 THE COURT: All right. Please clarify.

16 MR. HENKIN: Your Honor, I think we can clarify this
17 with the next exhibit that I was going to show the witness.

18 THE COURT: OK.

19 MR. HENKIN: Would you, Mr. Aquino, put D-1262 up for
20 just the witness and the Court and the SEC's attorneys.

21 Your Honor, we may want a sidebar about this.

22 THE COURT: OK.

23 (Continued on next page)

O42HSec4

Mizrach - Cross

1 (At sidebar)

2 MR. HENKIN: This is an abundance of caution, your
3 Honor. This is the document that the SEC produced about a
4 month, three or four weeks before trial, which is an internal
5 Jump email. We have a declaration authenticating it as a
6 business record, but I wanted to do this outside the hearing of
7 the jury because we're going to move the admission of this
8 document.

9 MR. CARNEY: Oh, thanks.

10 THE COURT: Let me see the document.

11 MR. HENKIN: It's on the screen, sorry, and it's the
12 bottom part.

13 THE COURT: All I see now is the heading.

14 MR. CARNEY: Your Honor —

15 THE COURT: You have to blow it up. Oh, here we go.
16 All right. So have you seen this document?

17 MR. CARNEY: Yes, your Honor. This document is one
18 that came up in —

19 THE COURT: I can't hear you.

20 MR. CARNEY: I'm sorry, your Honor. This document
21 came up in a separate SEC investigation and was brought to our
22 attention as your Honor —

23 THE COURT: Is there objection to its admission is the
24 question?

25 MR. CARNEY: Our objection would be that this witness

O42HSec4

Mizrach - Cross

1 has never seen this document before and —

2 MR. HENKIN: But I —

3 MR. CARNEY: And expert discovery ended a long time
4 ago. He's not seen this or offered anything on it.

5 MR. HENKIN: But that's the point, your Honor, he
6 hasn't seen it. My question is going to be whether it changes
7 his opinion. I'm entitled to pose that hypothetical. And it
8 wasn't available during the regular discovery period.

9 THE COURT: Wait. What is the question that you
10 propose to put to the witness about this exhibit?

11 MR. HENKIN: If, after looking at the way Jump
12 described the profitability of its own trades internally, his
13 view changes.

14 MR. CARNEY: And, your Honor, our — sorry.

15 MR. HENKIN: So these —

16 THE COURT: The question, first, is you say this is
17 not hearsay because?

18 MR. HENKIN: It's a business record. It's a Jump
19 business record, and we know it's a Jump business record.

20 THE COURT: I'm skeptical that a number of things that
21 have been put into evidence in this case, most without
22 objection, are really business records. The fact that it's
23 maintained in the business is not sufficient. It's one of the
24 elements, but not sufficient. A business record is typically
25 something that records contemporaneous events. This is a

O42HSec4

Mizrach - Cross

1 backward-looking document that gives an opinion about something
2 that happened some time ago.

3 MR. HENKIN: It is. And in that context, it's for
4 somebody's compensation review, describing what happened during
5 the entire year and presenting their views regarding that. And
6 frankly, we're not offering it for the truth. We're offering
7 it for the fact that it was said.

8 MR. CARNEY: Your Honor, if I may respond?

9 THE COURT: Yes.

10 MR. CARNEY: When we gave them this document, they
11 requested, your Honor, the opportunity to depose the
12 individuals involved in this document. They never took those
13 depositions. Had they done so, we likely would have presented
14 this to the expert, given him the chance to understand this
15 document in context. Instead, he's being asked on the fly to
16 review this document with no context, not knowing who these
17 individuals are, and to offer an opinion based on a document
18 that he has not had a chance to study.

19 THE COURT: Well, the fact that on cross-examination
20 someone is confronted with a document that they have not
21 reviewed is classic cross-examination. I don't see that that's
22 an objection. But I'm not so sure about its admissibility. I
23 think they can show it to him, and for his eyes only, and ask
24 him if it changes his opinion, but I'm skeptical that it's
25 admissible.

O42HSec4

Mizrach - Cross

1 MR. HENKIN: And subject to connection, your Honor.

2 THE COURT: Well —

3 MR. HENKIN: We have other evidence that relates to
4 it.

5 THE COURT: That may be, but it does not strike me as
6 a business record for the reasons I've already articulated.
7 Let's take a look at the business record exception. Hold on.

8 So the business record exception is Rule 803(6),
9 records of regularly conducted activity:

10 "A record of an act, event, condition, opinion, or
11 diagnosis if (a) the record was made at or near the time by or
12 from information transmitted by someone with knowledge; (b) the
13 record was kept in the course of a regularly conducted activity
14 of a business, organization, occupation, or calling; (c) making
15 of the record was a regular practice of that activity; (d)
16 testimony of a custodian" — you've satisfied that — "and (e)
17 the opponent does not show the source of the information or the
18 method or circumstances of preparation indicate a lack of
19 trustworthiness.

20 While I think it's a closer call, I think maybe it
21 does come in as a business record.

22 MR. HENKIN: Thank you, your Honor.

23 MR. CARNEY: Your Honor, if I can address a related
24 issue, then. In his report, Dr. Mizrach relied on a record
25 from Jump that said that Jump made 1.4 billion in profits from

O42HSec4

Mizrach - Cross

1 the Luna under these agreements. Our understanding is that he
2 wants to show this document to the witness to suggest that it's
3 the \$1.5 million profit in this —

4 THE COURT: What is it that you want to show? What's
5 the part of this document — because there is a lot of this
6 document that's irrelevant, what's the part you want?

7 MR. HENKIN: The only part of the — the only part is
8 this sentence at the top, 1.5 million. I mean, I'll have him
9 read the rest for context, obviously, but — and then what
10 Mr. Carney is bringing up is a separate issue that will be
11 dealt with by the expert separately, I think.

12 THE COURT: Well, you can certainly introduce the
13 other document on redirect.

14 MR. CARNEY: Well, my intention would be, on redirect,
15 to ask him if he reviewed, see the —

16 THE COURT: Whatever you want to do, but for now it's
17 in.

18 MR. HENKIN: Thank you.

19 MR. CARNEY: Thank you, your Honor.

20 (Continued on next page)

O42HSec4

Mizrach - Cross

1 (In open court; jurors present)

2 MR. HENKIN: With your permission, your Honor, may I
3 publish it to the jury?

4 THE COURT: What's the number again?

5 MR. HENKIN: It's D-1262.

6 THE COURT: Received.

7 (Defendants' Exhibit 1262 received in evidence)

8 MR. HENKIN: Thank you.

9 And would you focus, Mr. Aquino, please, on the
10 defending Luna paragraph that starts at the bottom.

11 BY MR. HENKIN:

12 Q. Professor Mizrach, would you just read that paragraph to
13 yourself and let me know when you're done.

14 A. I've finished reading, but I have many questions.

15 Q. OK. My first question, Professor Mizrach, is have you seen
16 this document prior to today?

17 A. I don't think so.

18 Q. OK. My second question is do you see the sentence that
19 says: "I then brought liqs into play to take off some of the
20 buys we had made supporting Luna, which generated a profit of
21 \$1.5 million"?

22 Do you see that sentence?

23 A. I see the sentence.

24 Q. Does that change the opinion that you offered that the
25 mint-burn mechanism was not profitable during May 2021?

O42HSec4

Mizrach - Cross

1 A. The statement, as I read it, certainly this part that
2 you've cut out, is not telling me anything about time frame
3 other than earlier in the year.

4 Q. Is it your view — do you understand this paragraph to be
5 discussing May 2021?

6 A. It would be hard to say that about a document I haven't
7 read.

8 MR. HENKIN: OK. We can take this down. Thank you.

9 Q. In your report and in your direct examination, you talked
10 about a \$65 million Luna position. And you were, I believe,
11 talking about the Luna loan agreement or the various versions
12 of it.

13 MR. CARNEY: Objection. Mischaracterizes.

14 THE COURT: Well, why don't you start again. I'm not
15 seeing the question yet.

16 Q. When you were talking about 65 million Lunas, were you
17 referring to the 65 million Lunas covered by the Luna loan
18 agreement that was originally entered into in 2020 and then
19 amended twice in 2021?

20 A. There was an agreement for Jump to be able to purchase Luna
21 at 40 cents, assuming they met certain liquidity conditions.

22 Q. And did you consider that six of the parts of that loan had
23 already begun to vest before May 2021 and that Jump had already
24 started receiving Luna under that agreement prior to May 2021?

25 A. Jump had received 3.5 million of the 65 million by May of

O42HSec4

Mizrach - Cross

1 2021.

2 Q. And when you talk about vesting in the context of that loan
3 agreement, what does that term mean?

4 A. I would defer to the many attorneys in the room as to how
5 vesting applies in this particular agreement.

6 Q. Did you interpret it as meaning that Jump had satisfied the
7 conditions for receiving each part of the Luna loan?

8 A. I know that Jump had met sufficient conditions for
9 3.5 million Luna to be delivered by May of 2021.

10 Q. In coming to the opinions that you've offered to the Court,
11 did you consider how much Luna Jump would have been entitled to
12 receive and when if all of the vesting conditions had been
13 deemed satisfied on May 23, 2021?

14 A. Yes, I considered that.

15 Q. Where is that in the report, either of the reports that you
16 filed?

17 A. If the 60 million that was still to be delivered had
18 already been satisfied by Jump's trading activity, meaning they
19 had met all the tranche conditions, then it's 60 million that
20 is still to be delivered at the time of May 2021.

21 Q. And are you offering the opinion that that would have been
22 subject to immediate delivery as of May 23, 2021?

23 A. No, it was not subject to immediate delivery.

24 Q. Did the total amount of Luna that Jump was entitled to
25 under the Luna loan agreement change after the May 23, 2021,

O42HSec4

Mizrach - Redirect

1 depeg?

2 A. No, it remained at 65 million total.

3 MR. HENKIN: Thank you. No further questions at this
4 time.

5 THE COURT: Anything else?

6 MR. CARNEY: Brief redirect, your Honor.

7 REDIRECT EXAMINATION

8 BY MR. CARNEY:

9 Q. Hello, Professor Mizrach.

10 At the start of cross-examination, Mr. Henkin had
11 asked you whether you were aware of agreements between
12 Terraform and Jump. Do you recall that?

13 A. I do.

14 Q. All right. Are the agreements that — and I just want to
15 make sure I understand your testimony from direct.

16 Are the agreements that you've seen and that you've
17 reviewed in conjunction with your report the Luna loan
18 agreements?

19 A. That's correct.

20 Q. And Mr. Henkin had asked you about an assumption from
21 counsel that was given to you as part of your report. Do you
22 recall that?

23 A. Yes.

24 Q. And were you given an assumption from counsel about a, what
25 I'll call, secret agreement between Jump and Terraform to help

O42HSec4

Mizrach - Redirect

1 restore the peg?

2 A. Yes, I — I had heard testimony from — that the SEC had
3 such evidence.

4 Q. Mr. Henkin had asked you — if we could please pull up
5 Plaintiff's Exhibit 199.

6 Mr. Henkin had asked you some questions about the sort
7 of black line that runs across this exhibit. Do you recall
8 that?

9 A. I do. I do recall.

10 Q. Can you remind us what that black line represents.

11 A. It represents Jump's daily net purchases or net sales of
12 UST in the tethered pair on KuCoin.

13 Q. What does a daily net mean?

14 A. Well, each day there's buying and selling going on in the
15 market, and the black line is helping us to keep track of what
16 happened each day. And the other bars are telling us about the
17 accumulation of that.

18 Q. And you anticipated my next question.

19 So what did the green bars on that chart represent?

20 A. The green bars are just adding up each day's net and
21 showing where Jump's cumulative position in UST was at various
22 points in time through the end of the month.

23 MR. CARNEY: And we can take that down. Thanks.

24 Q. Mr. Henkin asked you about whether passive buy trades can
25 have a different price than active buys. Do you recall that?

O42HSec4

Mizrach - Redirect

1 A. I do.

2 Q. And he asked you whether your model accounts for a
3 difference between active and passive buys. Do you recall
4 that?

5 A. Yes, I recall it.

6 Q. Why doesn't your model account for a difference between
7 active and passive buys?

8 A. Because Jump's intent, as I understand it, was to try to
9 restore the peg, and restoring the peg would use a mix of both
10 active and passive trades, and so for that reason, what was
11 consequential for my analysis was knowing when was Jump buying
12 and when was Jump selling and netting that out and then
13 removing that net buying from the market.

14 Q. And Mr. Henkin had asked you a question about the swap fee
15 mechanism where he told you to, for purposes of his
16 hypothetical, put aside transaction fees. Do you recall that?

17 A. I do.

18 Q. As an economist who specializes in market microstructure,
19 do you feel that it's reasonable to put aside transaction fees
20 when calculating whether the swap mechanism was effective or
21 not?

22 A. No, it's a central question in market microstructure. You
23 have to know all of the fees that are associated with all the
24 trades that might be part of an arbitrage, and of course, most
25 importantly, what would be the impact on the price if you tried

O42HSec4

Mizrach - Redirect

1 to buy more than one share of Apple, instead were buying 100 or
2 500,000.

3 Q. OK. I'm going to ask you about — if we could please pull
4 up Defendants' 1262.

5 And I'm going to ask, Mr. Haywood, could you please
6 highlight the first sentence in the bullet under defending
7 Luna.

8 Dr. Mizrach, could you please read that first sentence
9 into the record.

10 A. Sure.

11 "Earlier in the year when Luna sold off down to around
12 \$5 and UST was trading at a big discount, Bill approved us
13 spending up to \$100 million to support Luna to prevent a death
14 spiral."

15 Q. Is that sentence consistent with the opinions that you've
16 offered in this matter?

17 A. It is.

18 MR. CARNEY: No further questions, your Honor.

19 THE COURT: Anything else?

20 MR. HENKIN: No, your Honor.

21 THE COURT: Thank you very much. You may step down.

22 (Witness excused)

23 THE COURT: Does the SEC rest?

24 MR. CONNOR: Your Honor, we have a couple of
25 housekeeping items that he'd like to address and — we've

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Mizrach - Redirect

1 discussed these with defense counsel — move in a couple of
2 exhibits by stipulation.

3 THE COURT: Well, let's hear it. Let's do it now.

4 MR. CONNOR: Yes. The first is PX 171. The second is
5 PX 222. The next two are PX 259.

6 THE COURT: All right. Let's take them one at a time.
7 Go ahead, start again.

8 MR. CONNOR: PX 171 we offer into evidence.

9 MR. PELLEGRINO: No objection, your Honor.

10 THE COURT: Received.

11 (Plaintiff's Exhibit 171 received in evidence)

12 MR. CONNOR: PX 222 we offer into evidence.

13 MR. PELLEGRINO: No objection.

14 THE COURT: Received.

15 (Plaintiff's Exhibit 222 received in evidence)

16 MR. CONNOR: PX 259 we offer into evidence.

17 MR. PELLEGRINO: Can we view the whole document,
18 please.

19 MR. CONNOR: And just for context, this was the one
20 where we were reading Mr. Kwon's testimony and I said the depo
21 exhibit instead of the trial exhibit, so it's just a
22 clarification.

23 MR. PELLEGRINO: So this is already in?

24 MR. CONNOR: Yeah.

25 MR. PELLEGRINO: This is a correction to the —

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Mizrach - Redirect

1 MR. CONNOR: Yeah.

2 MR. PELLEGRINO: Then let's just do it that way.

3 THE COURT: And then just — All right. So it will be
4 received as a corrected version of something that was
5 previously received.

6 MR. PELLEGRINO: That's correct, a different number.
7 The deposition number was previously stated. This is the
8 actual exhibit number.

9 THE COURT: OK.

10 (Plaintiff's Exhibit 259 received in evidence)

11 MR. CONNOR: The same issue for PX 262.

12 MR. PELLEGRINO: So no objection with the same caveat,
13 your Honor.

14 THE COURT: Very good received.

15 (Plaintiff's Exhibit 262 received in evidence)

16 THE COURT: When you folks prepare the index for the
17 jury, you'll make the proper notations.

18 MR. PELLEGRINO: We'll cross-reference it, your Honor,
19 yes. Thank you.

20 MR. CONNOR: There was one exhibit that was marked as
21 59B, and it was just marked as 59. So it should be marked as
22 59B instead of 59.

23 MR. PELLEGRINO: OK. Let's just have a look at that,
24 please. No objection.

25 THE COURT: Received.

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1 (Plaintiff's Exhibit 59B received in evidence)

2 MR. CONNOR: And then, your Honor, we have two
3 one-sentence stipulations that I would like to read into the
4 record.

5 THE COURT: Go ahead.

6 MR. CONNOR: The first stipulation is that —

7 THE COURT: I would even allow you two sentences.

8 MR. CONNOR: Is that TFL, meaning Terraform Labs,
9 engaged in open-market transactions involving Luna tokens on
10 Bitfinex, Binance, KuCoin, QBoy, OKX, Bithumb, Coinone,
11 Gate.io, MXC, and Terraswap.

12 THE COURT: OK.

13 MR. CONNOR: And the second stipulation agreed by the
14 parties is Mr. Kwon states he had discussions with Kanav Kariya
15 regarding efforts to restore the \$1 UST peg.

16 Your Honor, I promise the final issue is one quick
17 disputed matter that I would ask for permission to approach at
18 a sidebar on one exhibit.

19 THE COURT: Yes.

20 MR. CONNOR: I apologize. I've been informed there is
21 no objection. We would offer that into evidence.

22 THE COURT: What's the number?

23 MR. CONNOR: PX 68.

24 THE COURT: Received.

25 (Plaintiff's Exhibit 68 received in evidence)

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Mizrach - Redirect

1 MR. CONNOR: The final thing we'd like to do, your
2 Honor, is read two exhibits that were admitted into evidence,
3 including PX 68, to the jury.

4 THE COURT: Go ahead.

5 MR. CONNOR: We'll start with PX 140 which has been
6 admitted into evidence.

7 MR. PELLEGRINO: I'm sorry. We're reading?

8 MR. CONNOR: Yes.

9 MR. PELLEGRINO: Could we show the whole document,
10 please.

11 MR. CONNOR: Sure. PX 140, starting at 50, and I want
12 to start on — at 8:59. Can you highlight that. This is Do
13 Kwon.

14 "I can just create fake transactions that look real,
15 which will generate fees, and we can wind that down as Chai
16 grows."

17 Daniel Shin: "Wouldn't people find out it's fake?
18 Why not just do what others do and give out inflation of Terra,
19 of Luna or Terra?"

20 This is Do Kwon: "Because for the latter, that breaks
21 our stability mechanism and would require a hard fork to take
22 out later, which gets harder and harder as we get more widely
23 integrated."

24 Daniel Shin: "Right."

25 Daniel Shin: "OK."

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Mizrach - Redirect

1 Do Kwon: "All the power to those who can profits
2 fake, because I will try my best to make it indiscernible. I
3 won't tell if you won't."

4 Daniel Shin: "Haha."

5 Daniel Shin: "Well, let's test it in small scale and
6 see what happens."

7 Do Kwon says: "OK."

8 And then we'd like to show for the jury —

9 THE COURT: By the way, this is of no concern to the
10 jury, but just for counsel, now that I hear that and see it in
11 context, I don't think it's a 404(b). I think it comes in on
12 the case-in-chief.

13 MR. CONNOR: Thank you, your Honor.

14 And PX 68 we'd like to show to the jury.

15 MR. FERRARA: Your Honor, no problem to this exhibit
16 coming in. But on 403 grounds, there will be an opportunity to
17 do this. Just to keep things moving, we'd object to reading
18 the exhibit.

19 THE COURT: Duly noted. Go ahead.

20 MR. CONNOR: Yes, I'd like to — on May 24, I'd like
21 to focus on Bill DiSomma's statements, No. 2 on 5/23/2021.

22 And it's stated: "Needed to support UST directly on
23 KuCoin, spun up bookstacker to sell KuCoin USD/UST, potentially
24 50 million."

25 And then I'd like to go to the last page.

O42HSec4

Mizrach - Redirect

1 MR. PELLEGRINO: Your Honor, may I interject? Under
2 the rule of completeness, I would ask that he read the next
3 bullet point.

4 THE COURT: OK.

5 MR. CONNOR: "DDOS attack on the Terra on-chain
6 facility."

7 And then the final thing I'd like to read is the last
8 bullet point, which states: "Did we get him to vest us?"

9 THE COURT: All right.

10 MR. CONNOR: And just for — I've just been reminded
11 by my counsel it wasn't clear who the "he" was, so I'd just
12 like to read the other sentences.

13 It says: "Yep, seems like the" —

14 MR. PELLEGRINO: Again, excuse me, may we put that up
15 for them to see, please, your Honor?

16 THE COURT: Yes.

17 MR. CONNOR: It says: "Yep seems like the prop to Do
18 was well timed. Lots of wood to chop still, but still feels
19 like a good start. That's how you're seeing it?"

20 Answer: "We're bracing for another sell storm. It's
21 a good start."

22 Answer: "Did we get him to vest us?"

23 And with that, your Honor, the SEC rests its
24 case-in-chief.

25 THE COURT: OK. Counsel come to the sidebar.

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Mizrach - Redirect

(Continued on next page)

O42HSec4

Mizrach - Redirect

1 (At sidebar)

2 THE COURT: So any motions from the defense?

3 MR. CALIFANO: Yes, your Honor, government — excuse
4 me, your Honor, the defendants move under Rule 50 for,
5 obviously, a judgment as a matter of law. We don't believe
6 that the SEC's established a legally sufficient evidentiary
7 basis for a jury to find for the SEC on either claim.

8 We believe it has not proven that any of the alleged
9 false statements in the pretrial order were actually false or
10 misleading or materially false or misleading or were made with
11 scienter. The SEC has merely focused on general concepts, such
12 as the UST was described as stable, the UST's stability was a
13 sure thing, that mint-burn would always be sufficient to
14 recover the peg, and that there were losses.

15 They seek to prove the falsity of the statements by
16 what they omit, which is the alleged secret agreement. They
17 failed to prove the statements were false and misleading in
18 light of the defendants' disclosures, the open discussion and
19 general understanding of the community, especially of the death
20 spiral risk.

21 The SEC has not proven any of the alleged false
22 statements in the pretrial order regarding Chai, either that
23 they were false or misleading or materially so or made with
24 scienter, and a reasonable jury would not have a legally
25 sufficient evidentiary basis to find falsity. And while the

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Mizrach - Redirect

1 merchants were paid in fiat, as the defendants have said from
2 the outset, Chai used the blockchain to process and settle
3 transactions. The SEC has not put forth witnesses with
4 personal knowledge that contradicts that evidence. So we ask
5 that the Court rule for the defendants.

6 THE COURT: I've considered the motion, and I will
7 state for the record I anticipated what defense counsel would
8 say. So I'm not just ruling from the hip, so to speak, but the
9 motion is denied.

10 So you have your first witness ready to go?

11 MR. PELLEGRINO: We do, your Honor.

12 THE COURT: Great.

13 MR. CONNOR: Are we going to 3:30 today?

14 THE COURT: Pardon?

15 MR. CONNOR: Are we going to 3:30?

16 THE COURT: 3:30, yeah.

17 (Continued on next page)

O42HSec4

Amani - Direct

(In open court; jurors present)

THE COURT: OK. Ladies and gentlemen, we now proceed to the defense case, and defense will call their first witness.

MR. PELLEGRINO: Defendants call Mr. Chris Amani, your Honor.

THE COURT: You mean you're going to call a witness without reading a stipulation? My gosh.

MR. PELLEGRINO: Maybe later.

CHRIS AMANI,
called as a witness by the Defendants,
having been duly sworn, testified as follows:

MR. PELLEGRINO: May I inquire?

THE COURT: Please.

DIRECT EXAMINATION

BY MR. PELLEGRINO:

Q. Good afternoon, Mr. Amani.

A. Hello.

Q. Where do you currently work?

A. I work at Terraform Labs.

Q. What is your job title at Terraform?

A. CEO.

Q. And what are your duties and responsibilities as CEO at Terraform?

A. I'm responsible for running all operations of the company.

Q. And approximately how long have you been running Terraform?

O42HSec4

Amani - Direct

1 A. About a year now.

2 Q. About how many people answer to you as CEO of the company?

3 A. We have 60 employees.

4 Q. And do you answer to anyone?

5 A. I answer to our board of directors.

6 Q. Are you a member of that board?

7 A. I am.

8 Q. Are there any independent directors on that board?

9 A. Yeah, we have one independent director.

10 Q. Do you have any ownership or control rights over Terraform?

11 A. I don't.

12 Q. Now I want to talk briefly about your background before you
13 joined Terraform.

14 Where are you originally from?

15 A. Arkansas.

16 Q. And did you obtain any education after high school?

17 A. I did. I got a bachelor's degree in business with a focus
18 on accounting from the University of Arkansas, and I got a
19 master's in business administration from San Jose State.

20 Q. What part of the country do you live now?

21 A. San Francisco Bay Area.

22 Q. Why did you move to the Bay Area?

23 A. With work.

24 Q. Now, turning to your work history, what did you do for work
25 after you graduated college?

O42HSec4

Amani - Direct

1 A. Excuse me.

2 Q. No problem. Take your time.

3 A. So I started my career with Walmart at their corporate
4 headquarters, and it was with them that I transferred out to
5 San Francisco Bay Area. That was in kind of like a business
6 analyst role supporting their e-commerce team.

7 Q. OK. And for some of your early career, we'll just go
8 through it briefly and quickly.

9 A. OK.

10 Q. What did you do after Walmart?

11 A. After Walmart, I was at Pepsi in a sales analyst role.

12 Q. What did you do after Pepsi?

13 A. I was at a video game company called Electronic Arts doing
14 corporate finance.

15 Q. Where did you go after Electronic Arts?

16 A. Another video game company called Zynga, and I was doing
17 corporate finance there as well.

18 Q. OK. What Zynga do?

19 A. Zynga made video games, mobile social games.

20 Q. What duties and responsibilities did you have at Zynga?

21 A. When I joined Zynga, they were a private company, but they
22 were a fast-growing startup. They were in the process of
23 preparing for an initial public offering, so to go public,
24 essentially, and sell stock on exchanges. So I was part of the
25 corporate finance team that was helping the company get ready

O42HSec4

Amani - Direct

1 for that initial public offering.

2 Q. What is an initial public offering?

3 A. You know, it's essentially when a company's private, its
4 shares aren't typically traded on stock exchanges. When you go
5 public, you can raise capital from public markets. It requires
6 a lot of, like, compliance work to be done, a lot of paperwork
7 to be filed. You have to talk to a lot of investors. So it's
8 just the process of going from being a private company to, you
9 know, a public company where your stock's publicly listed, and
10 you guys can all trade it on stock exchanges.

11 Q. What, if anything, did you do to help with that initial
12 public offering?

13 MR. CONNOR: Objection. Relevance.

14 MR. PELLEGRINO: Your Honor, it's background and does
15 go to his experience as CEO.

16 THE COURT: I'll allow it within limits.

17 A. Yeah, I was on the corporate planning side. So, primarily,
18 just preparing our forecasts that we could share with
19 investors. I helped with the S-1, helped with the investor
20 relations team, just getting documents ready, roadshow, just
21 kind of the standard things you do right before an IPO.

22 Q. Where did you go after Zynga?

23 A. I went to a company called Humanity — sorry, I skipped
24 one. MongoDB.

25 Q. What is MongoDB.

O42HSec4

Amani - Direct

1 A. It's a database software company.

2 Q. What was your title there?

3 A. Corporate finance again.

4 Q. And, generally, what were your duties and responsibilities
5 at MongoDB?

6 A. It was kind of the same thing. It was an early stage
7 startup, growing really fast. They liked the experience I had
8 at Zynga preparing for that IPO, and so I went to MongoDB to
9 help them prepare for that same process.

10 Q. Did there come a time when you left MongoDB?

11 A. Yes. I went to a company called Humanity.

12 Q. What did you do at Humanity?

13 A. A number of things. Over the time I was there — I was
14 there for, I think, almost seven years — I started as the head
15 of finance and analytics, eventually moved up into a chief
16 operating officer role, and then eventually took over from our
17 founder as the CEO.

18 Q. OK. About how many years ago did you first join Humanity?

19 A. It was about ten years ago.

20 Q. What does it mean to be the CEO of a company?

21 A. It means you're responsible for everything that happens at
22 the company.

23 Q. And is Humanity still a separate company?

24 A. Humanity was — so before I left, I sold Humanity to
25 another larger company in our space called TCP Software.

O42HSec4

Amani - Direct

1 Q. OK. And tell the jury, just briefly, about your role in
2 selling the company.

3 A. It was just about identifying, you know, companies that
4 would be a potential fit from a product integration
5 perspective. We talked to a number of different larger HR
6 platforms that would have been a good fit. We found one that
7 was interested, and I just led the whole process of negotiating
8 the deal, finalizing the diligence, and closing it.

9 Q. Who did you sell the company to?

10 A. TCP Software.

11 Q. What happened to your position after Humanity was sold to
12 TCP?

13 A. So our company was absorbed into TCP — the company was
14 absorbed into TCP. I stayed on to help make sure our team and
15 our product was properly integrated into their product, and I
16 took on a larger role with TCP Software as their head of
17 product, partnerships, and M&A.

18 Q. How long did you stay with the new company TCP?

19 A. One year after acquisition.

20 Q. Did there come a time when you left TCP?

21 A. Yes, at the end of 2021.

22 Q. And why did you leave?

23 A. To join Terraform Labs.

24 Q. OK. Now, before we get to that, was there a time before
25 joining Terraform that you first became interested in

O42HSec4

Amani - Direct

1 cryptocurrency in general?

2 A. Yeah, it was — originally, it caught my eye — I had known
3 about Bitcoin for a while. I didn't really understand it. I
4 thought it was just kind of fake Internet money. In 2017 was
5 when it like really clicked in my mind why it was created, what
6 it was for, but I didn't have a ton of time to go down the
7 rabbit hole on it because I was focused on Humanity.

8 Q. How did that interest come about?

9 A. I was — so I was traveling a lot for work, and one of the
10 countries I was traveling to, there was — it was caught, like,
11 in the middle of this mass migration of people fleeing a civil
12 war area. And I was reading about Bitcoin at the same time,
13 and it just finally clicked to me why it was important, why
14 decentralized money could be useful to people. You saw all
15 these refugees who kind of left their homes with nothing but
16 what they could carry on their back, essentially. And you
17 start to think about how, like, decentralized money, something
18 like Bitcoin, that couldn't have been taken from them in the
19 country they were coming from would be useful. They could take
20 it with them, right, or their family could send it to them in
21 this random country they were stuck in to help them survive.
22 So that was kind of my aha moment with Bitcoin.

23 Q. After those observations, did you still think of it as
24 "fake Internet money," as you put it?

25 A. No, no, it finally clicked on how important and how useful

O42HSec4

Amani - Direct

1 it could be, especially for people who didn't have access to,
2 like, the banking system that we have here in the United
3 States.

4 Q. After this experience, did there come a time when you
5 engaged in further research regarding cryptocurrency?

6 A. Excuse me. Yeah, so after — after selling my company, I
7 dove back in. There'd been a lot of innovation in the space
8 since the last time I'd looked at it. And, again, just
9 completely went down the rabbit hole. And at that time, you
10 know, my initial exploration was around Bitcoin, which is just
11 about being able to send value back and forth to people or
12 store that value.

13 When I looked at it the second time, like, there were
14 new blockchains that had launched or that I was looking into
15 that actually added the ability to add applications and
16 programs on top of the blockchain as well, which added, like, a
17 whole other layer of potential ways to make them useful for
18 people, and that's kind of what drew me back in in 2021, early
19 2021.

20 Q. When was that first research that you mentioned, initial
21 research?

22 A. 2017.

23 Q. So now talking about 2021, did there come a time when you
24 began to research Terra specifically?

25 A. Yeah. It was right towards the beginning of 2021. It was

O42HSec4

Amani - Direct

1 one of the first ecosystems that I started to dig into.

2 Q. How did you go about researching Terra?

3 A. Google. Their website had the white papers. Google,
4 YouTube videos, podcasts. Trying to think. Forum posts,
5 digging around on the government's forum. There was just a ton
6 of content out there.

7 Q. What did you initially learn about Terra?

8 A. I learned about UST initially. Like, that was kind of the
9 linchpin to the entire thing.

10 Q. Did you learn about Do Kwon?

11 A. I did.

12 Q. And at this point in time, what did you learn about Do
13 Kwon?

14 A. I think, you know, a lot of the content I was consuming
15 were interviews and podcasts.

16 THE COURT: Counsel, it has not happened yet, but I
17 want to caution you about not opening the door that we've had
18 some discussions about in recent days.

19 MR. PELLEGRINO: OK, your Honor. May I just —

20 THE COURT: If you don't know what I mean —

21 MR. PELLEGRINO: I may not, your Honor.

22 THE COURT: OK.

23 MR. PELLEGRINO: I want to be perfectly clear, I
24 guess, is the right way to put it.

25 THE COURT: OK.

O42HSec4

Amani - Direct

1 MR. PELLEGRINO: May I, your Honor?

2 THE COURT: Yes, come to the sidebar.

3 (Continued on next page)

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O42HSec4

Amani - Direct

(At sidebar)

THE COURT: To the extent that he becomes an effective character witness for Do Kwon, that opens the door to the conviction and various other things as well.

MR. PELLEGRINO: Understood, your Honor. To be clear, he's just going to say what he was interested in, what he's doing. I want to make sure that's OK.

THE COURT: I thought, in fairness to you, I better flag it.

MR. PELLEGRINO: I appreciate that. Thank you.

(Continued on next page)

O42HSec4

Amani - Direct

1 (In open court; jurors present)

2 BY MR. PELLEGRINO:

3 Q. Mr. Amani, what was your reaction to what Do Kwon was doing
4 at Terra?

5 A. I was excited about it.

6 Q. In what way specifically? What were you excited about?

7 A. Yeah, I mean, in crypto, there are a lot of — you could
8 see — you could see how, like, beneficial it could be and you
9 could see these applications that were being built on top of
10 the decentralized technology. And — but I think one of the —
11 what you also saw was a lot of speculation, and you didn't see
12 a ton of people actually building applications that might be
13 useful in the real world. And Do kind of staked out early that
14 that's what Terra was going to do and that's what Terra was
15 going to be, and so the stablecoin was one example of that.
16 The applications that Terra — Terraform Labs was building on
17 top of Terra was other examples of that. You had payments.
18 You had a savings product. You had investment products.

19 He had just kind of staked out this ground that he was
20 going to focus on building the harder things. And the harder
21 things — it's easy to just launch a crypto token and let
22 people speculate on it. It's hard to build applications that
23 people actually use and to scale them to millions of users, and
24 that was what he wanted to do. That's what I had done in my
25 career before, and so that's what resonated with me.

O42HSec4

Amani - Direct

1 Q. And in looking into the things that you just mentioned, was
2 that information publicly available to you?

3 A. Yes.

4 Q. Now, did Terraform produce its own content on social media
5 platforms?

6 A. Yeah, yes.

7 Q. What type of social media platforms did they use?

8 A. Social media would be Twitter, Telegram, Discord. I don't
9 think Medium's social media, but they would do Medium blog
10 posts as well. YouTube.

11 Q. What type of contents would they produce through these
12 platforms?

13 A. On YouTube, obviously, videos. It's mostly updates, giving
14 people updates on what was happening in the ecosystem. So if a
15 new team was building on the Terra blockchain, you would get an
16 update on Twitter about it. If there was something you needed
17 to know about a new governance post that was coming out, you
18 could find out about that on the social media channels as well.
19 Explanations of things that happened. You know, anything that
20 Terraform Labs wanted the community to know about or draw their
21 attention to.

22 Q. Did you observe whether there were individuals who did not
23 work for Terraform that also produced contents?

24 A. There were. There were, like, crypto influencers who were
25 producing content about Terra as well.

O42HSec4

Amani - Direct

1 Q. What kind of content did these individuals produce,
2 generally speaking?

3 A. Same channels. I mean, the same type of stuff, right?
4 They would have Twitter feeds talking about — Twitter posts
5 talking about how a protocol worked or YouTube videos or
6 podcasts.

7 Q. Did you ever produce content related to Terra yourself?

8 A. I did. I did, yeah. I had a YouTube show about Terra for
9 a little while prior to joining the company and a little bit
10 after I was at the company.

11 Q. OK. And did you participate in social media discussions
12 relating to cryptocurrency?

13 A. Yes.

14 Q. What was the social media environment like?

15 MR. CONNOR: Objection. Relevance.

16 THE COURT: Yes, I think and hopelessly vague.

17 Q. OK. Can you describe what the discussions were that you
18 were having in these social media conversations.

19 A. Like on social media and the forums, so crypto has — so
20 crypto has certain properties, right? One of the properties of
21 crypto is that you — you hear this phrase "your keys, your
22 money," right? Like, when you own crypto, you own it in your
23 own wallet and you control your passkey, and if you lose your
24 passkey, there's no one to save you, right? Like, you're
25 completely in control of your money. That also means that no

O42HSec4

Amani - Direct

1 one can take your money or no intermediary can step in, but
2 there's a trade-off between full responsibility and a safety
3 net.

4 And so there's definitely like — so you have to think
5 skeptically at times and you have to really question what
6 you're doing. In crypto, like the terminology they use is
7 DYOR, do your own research. And so that's why such, like, a
8 thriving ecosystem of conversation or thriving, like,
9 subcommunity sprung up is because it's money, right? And
10 you're putting your money into these things, and you need to
11 understand what you're interacting with and what the purposes
12 are and how it works.

13 So there's a lot of debate, a lot of arguments, a lot
14 of jokes. It's like you wander into like a — it's just its
15 own subculture. If you were to jump into it, there would be
16 all this terminology and inside jokes you wouldn't really
17 understand. But, yeah, it was kind of like a subculture like a
18 Reddit forum would have their own subculture as well.

19 Q. You just mentioned arguments. Just very, very briefly,
20 what were the arguments like on these social media discussions?

21 MR. CONNOR: Objection, your Honor. Relevance, lack
22 of foundation, and vague.

23 THE COURT: Well, the lack of foundation is overruled.
24 I question the relevance, but I also think it is vague.

25 But I'll tell you what. Why don't we stop for today,

O42HSec4

Amani - Direct

1 and you can reformulate the question by 12:30 tomorrow.

2 MR. PELLEGRINO: That will give me plenty of time,
3 your Honor. Thank you.

4 THE COURT: Ladies and gentlemen, please remember
5 tomorrow we're starting at 12:30 and going to 3:30. Have a
6 very good evening, and we'll see you tomorrow.

7 (Jury excused)

8 (Continued on next page)

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(Jury not present)

THE COURT: Please be seated.

OK. Why don't we all get — I'm pretty sure I'll be finished in the Court of Appeals by noon, so why don't we get together, say, about 12:15 in case there's anything we need to discuss. So I'll see you tomorrow at 12:15.

Oh, and Mr. Ferrara's going to send me a letter. I would be heartbroken if I didn't go through a day without having a letter from Mr. Ferrara.

MR. CONNOR: Your Honor, would it be OK if the SEC also submitted a letter as well?

THE COURT: Yes.

MR. CONNOR: Thank you.

(Adjourned to April 3, 2024, at 12:15 p.m.)

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